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The OIL WEEKLY

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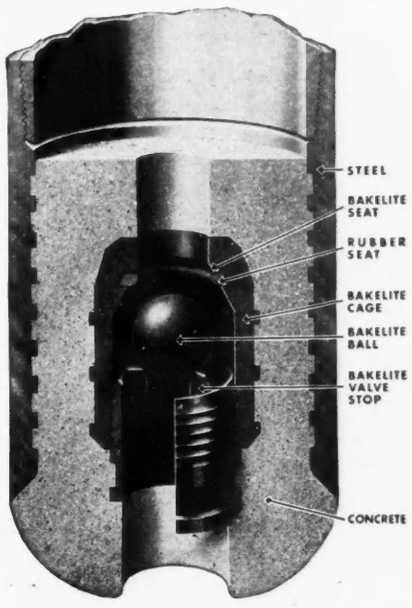

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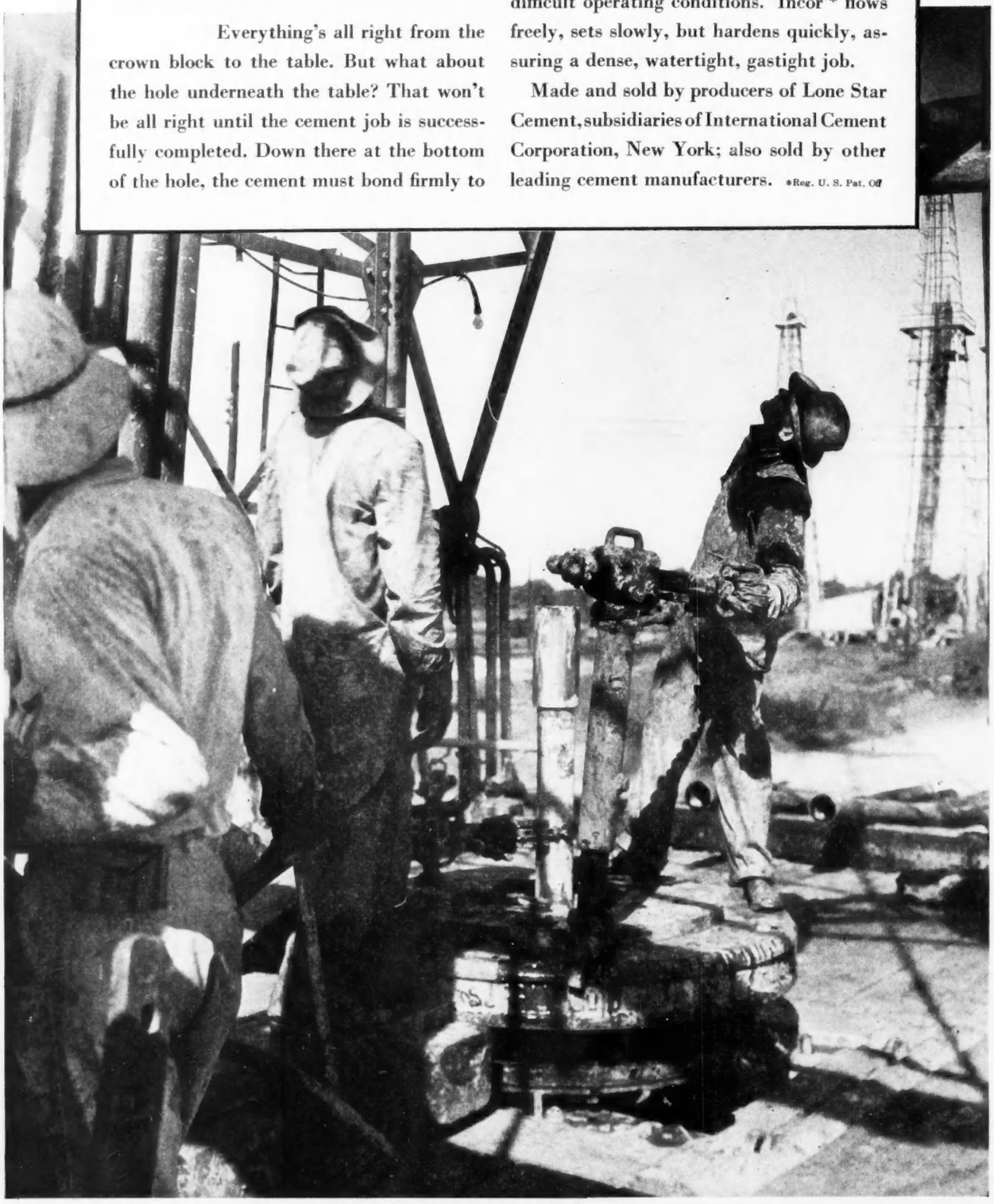

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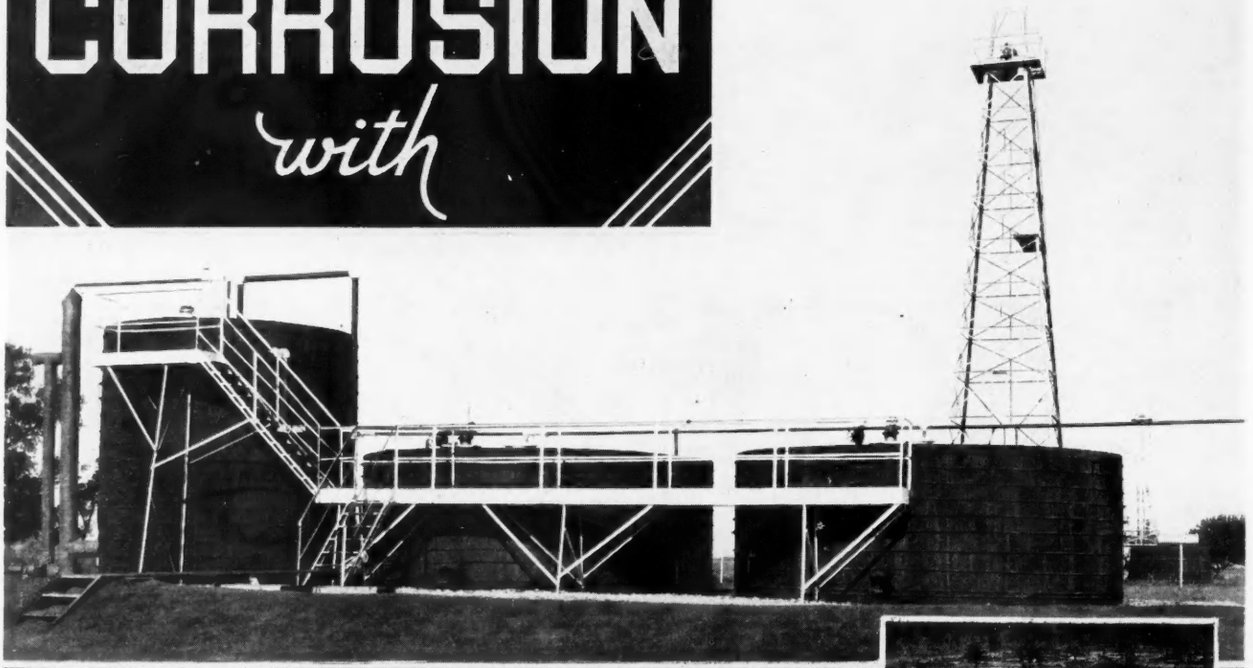

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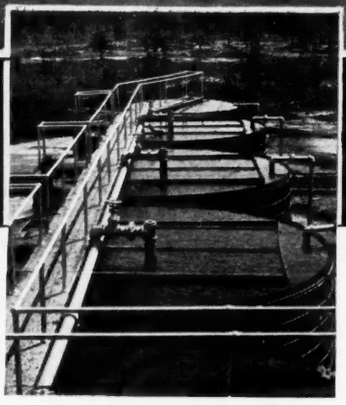

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ENGINEERING • NEWS • STATISTICS

WARREN L. BAKER, Editor

. . . this Week

AN open flow potential gauge of all East Texas key wells, and all other wells equipped for such gauges if desired, was ordered by the Texas Railroad Commission at a statewide hearing held September 19. The entire field was not ordered closed as had been suggested previously. The potential gauge figures will be used in establishing the field's allocation at the October state hearing. **Page 8.**

CALIFORNIA operators have abandoned plans attempting to curtail production by voluntary agreements, and the job of reducing the state's yield has been taken over by a newly organized committee of independent producers. The committee hopes to get production down to 531,250 barrels shortly. The committee plans to work out allotments by fields and leases. Meanwhile, production last week continued high. **Page 8.**

AN interesting drilling rig is one in which the slush pump, instead of being driven by steam directly from the boiler, is operated by a small, separate steam engine. Two 100-horsepower, 150-pound working pressure boilers generate all the steam used on the rig. Records show that the rig has a low fuel cost per foot drilled. Furthermore, the installation is easily and quickly moved and rigged up. **Page 35.**

THE Texas Railroad Commission will issue its first sour gas proration order for the Panhandle district on October 1. Last Thursday the commission members heard testimony involving the promulgation of this order. **Page 10.**

ACCORDING to Secretary of the Interior Harold L. Ickes, amendments to the mineral leasing law enacted at the last session of Congress, will permit more satisfactory and businesslike oil and gas operations on public lands. The new leasing laws were discussed in a statement issued by the secretary on September 20. **Page 8.**

AN important water flooding problem is that of keeping the sand face clean in intake wells, and using only purified water. Recently several eastern operators have used acid successfully for cleaning the face of intake wells, and the volume of water absorbed increased immediately. Several interesting practices are used in performing this work. **Page 24.**

THE important federal court case in which Texoma Natural Gas Company is attacking the validity of the Texas gas proration law and the Texas Railroad Commission's Panhandle gas order has been continued so additional briefs may be filed. If the company is able to make its present temporary injunction against the commission permanent it would have the effect of declaring the law invalid, and other companies could obtain injunctions also. **Page 10.**

THE killing or cushioning of vibration set up in pipe lines by the pump strokes is an important operation that overcomes the causes of many mechanical troubles. The dangers incurring when using air bottles for this purpose, may be overcome by adopting precautionary measures. The hazards occur when repressuring the air bottles, and an understanding of the changing conditions within the bottle explain what may cause an explosion. With this knowledge safe repressuring practices can be adopted. **Page 29.**

THE U. S. Bureau of Mines has recommended that the national output of crude oil be reduced to 2,554,200 barrels daily during October, a reduction of 58,000 barrels. The Bureau in its allocation of this figure, goes into detail as to the statistical factors that caused it to decide on this daily production, and these figures represent vital statistics. Incidentally, they paint an encouraging outlook for the industry. **Page 9.**

THE indicating of commercial gas engine installations, such as those used in the oil fields for pumping, etc, has many valuable advantages. The performance of the gas engine may be checked in this way, and with the resulting information small changes in the setting of engine regulating mechanism frequently will effect important economies. There are a number of important card details to be understood before full advantage may be taken of indicator card readings. **Page 19.**

The Oil Man's Calendar

SEPTEMBER
23-28 Oil and Gas Exposition, Mt. Pleasant, Michigan.
OCTOBER
10-12 A.I.M.E. Petroleum Division, Mid-Continent Section, Houston, Texas.
16-17 American Association of Petroleum Geologists, Mid Year Meeting, Mexico City, Mexico.
Kansas-Oklahoma Division, Mid-Continent Oil & Gas Association, Tulsa, Oklahoma.
NOVEMBER
4-5 Independent Petroleum Association of America, Annual Meeting, Dallas, Texas.
11-14 American Petroleum Institute, Annual Meeting, Biltmore Hotel, Los Angeles.
California Natural Gasoline Association, Los Angeles.
DECEMBER
Mid-Continent Oil & Gas Association, Tulsa, Oklahoma.
MARCH, 1936
19-21 American Association of Petroleum Geologists, Tulsa, Oklahoma.
APRIL
16-17 National Petroleum Association Cleveland, Ohio.

Will Gauge Field

OPEN FLOW POTENTIAL TESTS OF EAST TEXAS KEY WELLS ORDERED

AUSTIN.

COLONEL E. O. THOMPSON, chairman of the Texas Railroad Commission, has ordered new open flow potential tests of every key-well in East Texas. All other wells that can be tested during the next 30 days are also included and the results of these tests to be presented at the October statewide proration hearing. The instructions were issued to Gordon Griffin, chief petroleum engineer for the commission, at the statewide proration hearing last Thursday.

The commission recently discovered discrepancies in potential maps used to zone the field, some of which may have come from incorrect data developed on tests.

W. H. Jacks, Dallas attorney, requested the new tests at the hearing. He said that there was considerable dissatisfaction among operators in the field, which he felt would grow into distrust. He asked that the entire field be closed in during the time the tests are made, but Thompson indicated clearly that he had no intention of taking that course.

In reply to questions from Jacks, Griffin stated that he thought the tests were futile, in that there would be no change in the reports now used as a basis for fixing allowables. He said that he had recently made a thorough check of the records of these tests, and had found that each of them were made properly. He explained to Jacks that tests made now usually resulted in higher potentials than those made on wells some two years ago. At that time, he pointed out, operators did not complete their wells so carefully with the view to taking tests, nor did they then know the best method of testing.

Griffin said that one of the larger companies formerly taking only six or seven feet of sand, now takes 50 feet of sand on wells they plan to use as test wells. Griffin pointed out that this materially increases the flow of the well.

Want New Allocation Method

R. E. Hardewicke, Fort Worth attorney representing several large East Texas operators, renewed his request that the commission revise the method of allocation in the field to include an acreage factor along the lines of the plan he presented at the general hearing last month. He declared that this move was essential to allocate production fairly and comply with the Texas Supreme Court ruling in the case of C. H. Brown vs. Humble Oil & Refining Company.

Griffin testified that East Texas pressures have dropped only 2/10 pounds during the past month, and recommended to the commission that they continue in force the order allowing production of three percent of the hourly potential. He expressed the opinion that the field could operate best at about 450,000 barrels per day, and estimated that the factor now in use would permit production of 445,000 barrels daily on the first of October.

A check on the movement of oil by truck in the field was made by Griffin early last week to determine the authenticity of reports to the effect that large amounts of crude were moving out of East Texas by this means to Dallas and Louisiana. Griffin stationed crews at each refinery and along each highway leading out of the field. He

(*Continued on page 49*)

NEW CALIFORNIA PLAN

Independent committee working on curtailment

LOS ANGELES.

PREVIOUS plans of attempting to place in effect voluntary curtailment of crude oil to equal demand through the signing of agreements to abide by allotments September 16 was abandoned in California and the job was taken over by independent producers. The Emergency Advisory Board of Independent Oil Producers was named with Ralph B. Lloyd as chairman. Other members of the board include A. T. Jergins, R. A. Broomfield, J. W. Wood, Dana Hogan, Lawrence E. Doan and J. J. Doyle, all independent oil producers.

The board started to function at once and it was announced that in the opinion of the board, the daily market demand is 531,250* barrels, and this amount is the state's allotment from September 20 to December, inclusive. Allotments by fields and by leases are to be worked out under the supervision of the board. Field and lease allotments as issued for August are to be used pending preparation of other figures.

Hope to Reduce Output

Leaders in the new effort to curtail California production unofficially let it be known they hope to reduce daily production to a point slightly under 600,000 barrels on September 20, and express the further hope production will be down to 531,250 barrels by September 25. There seems to be an optimistic feeling that the new plan will be worked out, since the feeling is fast growing that producers are not at all satisfied with the present low posted price being paid for light crude, and they further feel that if the present high production is continued, they will be faced by a posted price of close to 25 cents a barrel. Under such circumstances, and due to the implied promise that the old and higher crude prices will be restored by the purchasing companies if and when state production is actually reduced to amount of estimated demand, the thought is prevalent that the plan will succeed and be placed in effect about October 1.

In substance, the job of reducing California production to demand is being taken over by the independents. Efforts along this line are centering around the Oil Producers Agency of California, the membership of which is entirely independent. There is no doubt in the minds of anyone that the six major companies in the state will cooperate 100 percent. Action must be voluntary as there is no legal method in California for forcing curtailment. Due to the fact the larger companies are still faced by an agreed injunction issued by a federal court in San Francisco several years ago forbidding acts that might be construed to violate the anti-trust law, such concerns cannot be expected to take an active part in reaching agreements, but they can reduce their own production in keeping with state demand.

The present umpire, J. R. Pemberton, has been designated as "umpire of independent oil in the state of California." If larger companies wish their allotment to be worked out by the engineering department of the umpire's office, it will be done, and the companies will pay the fee to be fixed. The Oil Producers Agency is to contribute to the expenses of the umpire's office. Practically all meetings of the various committees to function under the new arrangements will be held at the agency's office.

Under the new plan, field committees will be selected by independent producers in the various fields. An Emergency Curtailment Committee is being formed to consist of members from each field. Each field committeeman will act as chairman of a field committee. Lawrence Vander Leck has been selected as chairman of the emergency field committee and he is calling an immediate meeting of his committee to gather at the umpire's office.

The former plan of producers signing an agreement to adhere strictly to allotments failed in that it was found to be impossible to actually sign up in excess of 85 percent of the production of the state. The contracts already signed have been mailed back to the signers.

*Bureau of Mines September estimate for California demand is 499,700 barrels daily.

NEW LEASING LAW

Amendment allows better operation on public lands

WASHINGTON, D. C.

AMENDMENTS to the mineral leasing law enacted by Congress during the session recently ended will permit the conduct of oil and gas operations on public lands in "a more satisfactory any businesslike manner," it was declared September 20 by Secretary of the Interior Harold L. Ickes.

The legislation abolishes the permit system, but royalties under the new system will conform to the usual commercial royalty schedule of not less than 12½ percent, the secretary explained. "The new law," he said, "protects with meticulous care the rights and equities established under all outstanding leases and permits and in addition, offers lessees and permittees under the old law the opportunity of

exchanging their present rights for leases under the new system."

An important feature of the act is the strengthening of the conservation provisions of the old statute and the provision for encouragement of unit operation.

"By reason of the special character of unit operations, including both the conservation features and the control of production," Ickes declared, "holders of leases operated under unit agreements are relieved from the acreage holding limitations prescribed by law for operations not so conducted."

It was the intent of the law of 1920, which the recently enacted law amends, to encourage and expedite prospecting for oil and gas, there being a general scarcity, or fear of scarcity, of these substances throughout the country at the time of enactment. This encouragement was to be given through the issuance of prospecting permits which, on discovery of oil or gas, would ripen into leases, the lessee being accorded an especially favorable royalty rate theretofore unprecedented in the industry.

"In practical operation, however, the permits were taken out by persons who did no prospecting at all but who sold their rights to others, reserving to themselves all the benefit of the low royalty rate, this compensation being, in general, greater than that received by the government. Thus, in practice, no encouragement whatever was accorded to the person or company expending money and effort in actual drilling operations, and the United States divested itself of its rightful royalties for the benefit of those who, in most instances, were speculators."

STUDY PROBLEMS

Four committees are to report at A.P.I. meeting

NEW YORK.

A BROAD survey of problems peculiar to the production, refining, marketing, and transportation operations of the petroleum industry, with particular reference to economic factors, will be made by four committees created by the American Petroleum Institute, it was announced September 17.

It is expected that the committees, which were appointed by the national trade association's Executive Committee, will make their preliminary reports in time for presentation before the Institute's Board of Directors, and perhaps the membership, at the Institute's 16th Annual Meeting scheduled for November 11 to 14 at Los Angeles, California.

J. Edgar Pew of Sun Oil Company, Philadelphia, Pennsylvania, is chairman of the production committee, which held its organization meeting at Dallas, Texas, on Wednesday, September 18. J. Noel Robinson of Tide Water Oil Company, New York, has been appointed chairman of the refining committee, which met for the first time in New York, September 17. W. V. Hartmann, Gulf Refining Company, Pittsburgh, Pennsylvania, is chairman of the marketing committee, which met Wednesday, September 18, at New York. Harry T. Klein of The Texas Company, New York, is chairman of the transportation committee, which met at New York Friday, September 20.

Reduce Allowable

CUT NATIONAL OUTPUT 58,000 BARRELS; OUTLOOK IS GOOD

WASHINGTON, D. C.

A DAILY average oil production of 2,554,200 barrels will be required during October to meet national needs, the Bureau of Mines forecast Friday. This would represent a reduction of 58,800 barrels per day from the September recommendation of the bureau of 2,613,000 barrels.

The indicated domestic demand for motor fuel next month, the bureau found, will be approximately 37,590,000 barrels, it being explained that this figure is primarily based on the probable number of cars in use and their average consumption and that little weight was given to the demand data for the previous year "as it was realized that the final figure of the Bureau of Mines for October, 1934, while undoubtedly a true measure of refinery deliveries, exceeded actual consumption by possibly 2,400,000 barrels."

Exports of motor fuel in July again exceeded expectations, the bureau said, the total of 3,022,000 barrels being 76 percent above the same month last year. The material increase in past exports appears to outweigh the usual seasonal decline, so that the indicated shipments for October are estimated at 2,100,000 barrels against 1,950,000 barrels this month.

Direct sales of natural gasoline and benzol for next month are estimated at 700,000 barrels. "Total stocks of finished and unfinished gasoline on July 31 amounted to 56,446,000 barrels the comparable total for August 31 was about fifty-three million barrels," it was stated. "These data indicate that the failure to withdraw as much as contemplated in July was partially ameliorated by the performance in August.

Stocks Decline

"There is now little doubt that the objective of about fifty-one million barrels as the desired national total of stocks on September 30 will be reached. However, some districts are still above the desired levels, hence a reduction of 960,000 barrels is contemplated for October."

The deduction of direct sales and the contemplated stock withdrawal leaves 38,030,000 barrels as the required production of finished and unfinished gasoline in October.

Production of natural gasoline may decline materially in the Panhandle, but this will probably be outweighed by the seasonal increase in blending in the manufacture of winter gasolines, and the estimated percentage of natural gasoline has accordingly been raised from 6.6 percent for September to 8.2 percent for next month. The total quantity of natural to be utilized at refineries next month is 3,120,000 barrels which, deducted from the total required refinery output, leaves 34,910,000 barrels of gasoline to be made from crude.

Imports of crude, including receipts in bond, have fluctuated considerably in recent weeks, it was stated, but the average has been between 90,000 and 100,000 barrels daily, and the estimate for October is accordingly placed at 3,000,000 barrels. Although the unusually high level of crude exports of June and July will probably not continued into the fall months, indications point to further increases over 1934 and the estimate for October is 4,250,000 barrels against 3,930,000 barrels contemplated for this month. The estimate for transfers to fuel and losses remains unchanged at 2,000,000 barrels. The period of peak demand having passed, it should no longer be necessary to draw on crude stocks as extensively as in recent months, and the estimate for October is 1,780,000 barrels.

October Allocations

On the basis of these factors, it is stated, the national production requirement for October is 79,180,000 barrels, which the bureau recommends as the basis for the following daily average production of the various states: Texas, 1,025,500 barrels against 1,059,900 recommended for September; California, 497,700 against 499,700; Oklahoma, 492,900 against 506,000; Kansas, 146,100 against 151,900; Louisiana, 125,100 against 126,300; New Mexico, 50,600 against 50,800; Pennsylvania, 40,000 against 41,600; Michigan, 39,500 against 38,000; Wyoming, 34,300 against 35,600; Arkansas, 29,200, unchanged; Kentucky, 14,300 against 14,000; Montana, 11,000 against 10,600; Illinois, 10,800 against 10,700; Ohio, 10,700 against 11,000; New York, 10,200 against 10,500; West Virginia, 10,000 against 10,500; Colorado, 4200 against 4500; Indiana, 2100 against 2200 barrels.

TEXAS ALLOWABLE

14,410 barrels trimmed from previous figure

AUSTIN.

THE Texas Railroad Commission has issued a new statewide proration order effective on September 23 fixing a total daily allowable production of 1,011,090 barrels. This is 14,410 below the Texas consumer demand as determined by the United States Bureau of Mines, which was 1,025,500 for the month of October. The commission effected the reduction by reducing the allowables for the major flush fields in the state.

Some increases were ordered for smaller fields where peculiar conditions required increases to supply local markets. The East Texas allowable was fixed at 2.8 percent of the hourly potential. The allowable for some three months has been three percent of the hourly potential. The estimated allow-

able for the field effective on Monday is 422,847 barrels, a cut of 2585 below the estimated allowable on September 1.

Van was cut 1251 barrels to 34,482 barrels per day. Conroe was reduced 1383 barrels to 38,142 barrels per day. Yates was cut 1369 barrels to 37,755 barrels per day.

This policy of a generally uniform cut for the flush fields to meet a declining fall market coincides with precedents established by the commission in the past when the state allowable production materially exceeded the market demand for crude.

The new district allowables, other than East Texas, were as follows: Panhandle, 52,800 barrels; North Texas, 58,500 barrels; West Central Texas, 48,927; West Texas, 131,215; East Central Texas, 46,763; Southwest Texas, 100,092; Gulf Coast, 147,609 barrels. Allowables for nearly two hundred fields were revised, but this consisted almost entirely of allowances made for new completions and adjustments in marginal fields.

Sour Gas Hearing

TESTIMONY HEARD TO SUPPORT TEXAS' PENDING GAS ORDER

AUSTIN.

ON October 1st, the Texas Railroad Commission will issue its first proration order governing the production of sour gas from the Panhandle area. Legal questions involved in promulgation of this order were discussed at length at the statewide hearing September 19.

Commissioner E. O. Thompson explained that a false impression had been circulated among operators to the effect that when pressure in sweet gas wells declined to a point where the gas would not flow into the line unless passed through a booster station, the commission would permit them to be produced as the operators saw fit. Thompson said that this was contrary to the opinion held by the commission, which was that every producing well must be considered in working out a comprehensive conservation program.

Theories Differ

An interesting theory was advanced by Don Emory, attorney for Phillips Petroleum Company. He suggested that the commission might hold a hearing on these low-pressure wells, and find that they were sour gas wells.

He based this contention on the theory that the legislature in distinguishing between sweet and sour gas wells, did so for the sole purpose of determining a yardstick by which the commission could establish the different uses to which gas could be put.

Thus sweet gas from low-pressure wells could be classified as "sour" and would then become eligible for use in stripping and carbon black plants.

Chairman Thompson indicated clearly that he did not agree with this theory whereby a man's gas well might "go sour on his hands".

J. W. Hassell, Dallas attorney representing operators in the sweet gas area, also protested against this plan. He pointed out that under the new law sour gas has become more valuable than sweet gas, and that the unrestricted production from these wells might result in the migration of sweet gas into the sour gas area. "All the testimony before this commission and the legislature was to the effect that one well could draw gas from the entire reservoir if it produced over a long period at a high rate," he declared.

Senator Clint Small, author of the law, declared that this was not the intention of the legislature in making this distinction. He indicated that the purpose was to conserve the sweet gas for light and fuel and to use sour gas for other purposes to which it was suited. He also urged that all wells producing oil with a gas-oil ratio in excess of 100,000/1 be treated as though they were dry gas wells and restricted accordingly.

Charles Keffer, attorney for Canadian River Gas Company, inquired whether the commission intended to discontinue allowances for the low-pressure wells.

Commissioner Thompson said that this and all other questions raised would be answered by the order issued.

Discuss Prices

Thompson inquired whether Lone Star Gas Company had increased the price paid for Panhandle gas since the law became effective. He said that during legislative hearings on the bill the company had stated this would be done if the law was passed.

Rip Collins, Lone Star Gas Company attorney, declared that the contingency was not the passage of the law, but the elimination of waste in the Panhandle, which had not been effected. He said that the company had made out checks at the higher rate in payment for gas produced in August, but that these had been withheld since wasteful practices had been renewed.

Senator Small stated that United Gas Company had offered to pay four cents for gas from the Panhandle, which was double the old price.

Charles I. Francis, United Gas Company attorney, filed with the commission a schedule which suggested drainage areas to be assigned to wells outside the Panhandle. He offered this as a suggestion to the commission, and declared that it was the only evidence before the body on this question. The 80-acre assignments which are now contained in commission orders are too small, he said, and urged that assignments of 160 acres or more be substituted.

CONTINUE GAS CASE

No decision rendered in suit attacking proration

HOUSTON.

THE case in which Texoma Natural Gas Company was attacking the Texas natural gas proration laws and orders of the Texas Railroad Commission in the Panhandle was continued so that the company might be permitted to file supplemental briefs. The case was heard by a three-judge federal court consisting of Judges T. M. Kennerly, Duval West and J. C. Hutcheson, Jr.

S. A. L. Morgan, attorney for Texoma Natural Gas Company, explained that he not only was attacking the validity of the commission orders and state laws, but that he was complaining of the method of allocation that permits unequal withdrawals. Continuing, Morgan explained that Texoma Natural Gas Company, which owns 281,000 acres in the West Panhandle gas field, or 13.2 percent of the gas contained in the reservoir, must, under the present order, purchase 42,000,000 cubic feet of gas in order to supply its contracted demand of 117,000,000 cubic feet daily. Although the company owns 13 percent of the gas in the field it is allowed but five percent, he said. In order to purchase this amount of gas the company would be required to lay extensive gas gathering lines at a considerable cost. Moreover, it was stated, it is a physical impossibility for the company to construct these lines in the short limit of time given them. Therefore, Texoma Natural Gas Company is seeking the privilege to supply gas from its own wells, which have a potential of 1,200,000,000 cubic feet per day.

Has Temporary Injunction

Texoma Natural Gas Company already has obtained a temporary injunction restraining the commission from enforcing the gas proration order on the company's properties, and the present hearing was for the purpose of determining whether or not the injunction shall be made permanent. If declared permanent, the injunction would have the effect of making the gas proration order invalid, as other companies could go to court and obtain permanent injunctions.

Morgan continued his defense of the Texoma Natural Gas Company stand by introducing statements showing that the rock pressure under wells owned by Texoma Natural Gas Company were higher than in adjoining wells owned by other concerns, and that it therefore was impossible physically for the Texoma Natural Gas Company wells to be draining the low pressure area. Rather, according to the law of physics, he explained, the higher rock pressure under the Texoma Natural Gas Company leases would be draining toward the low pressure area existing in adjoining leases.

William C. Davis, attorney for the commission, sought to show that Texoma Natural Gas Company was causing excessive waste by rapid withdrawal from only a few wells, rather than taking a ratable flow from all wells it owns.

The Changing Panorama

THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by JACK LOGAN, Associate Editor

THIS week's attractions for the oil industry will include, among others: 1. The oil and gas exposition at Mt. Pleasant, Michigan, September 23-28; 2. the open meeting of oil conservation authorities of Texas, Arkansas, and Louisiana at Marshall, Texas, Friday, September 27, aimed at working out uniform proration policies for the flush Rodessa field, to be applied if production extends into Texas and Arkansas.

Much of Interest Past Week

Last week brought numerous important and interesting developments, particularly in the Mid-Continent and California. Here are some of the outstanding events of the week:

1. California producers failed to put over the voluntary proration plan they had been working on for several weeks, and began efforts on another similar plan, hoping to better crude prices, which broke August 29. Meanwhile, there was further weakening of retail gasoline prices on the West Coast.

2. Although it continued to hold its ground, the Mid-Continent market naturally was not stimulated by the prolonged disturbance in California.

3. There was about a state of equalization, as regards threatened overproduction from flush fields: Rodessa no longer looked quite so menacing, with the field's salt water level known; but along came Oxford pool, in Kansas, with a new, deeper pay zone, furnishing the state a record well in flush production, flowing at the rate of 37,000 barrels daily after deepening about 500 feet to dolomite at 2837 feet.

4. The Texas Railroad Commission abandoned its contemplated idea of gauging all wells in the East Texas field for re-allocating allowables. Instead, at Austin on September 19, the commission ordered new tests of the comparatively small number of key wells prior to the next proration hearing a month hence. Waived aside with the issuance of the order was the idea, also contemplated recently by the commission, of completely shutting in the big field in connection with gauging producing ability of wells.

5. Preparatory to inaugurating proration of sour gas production October 1, the Texas Railroad Commission in its regular monthly proration hearing at Austin, September 19, heard evidence on which to base a program. (Sour gas is unfit for fuel or lighting use). An order regulating sweet gas production has been effective since August 1.

6. The Texas Railroad Commission was attacked before a three-judge federal court at Houston, September 19, in connection with both the oil and gas phases of its conservation program. The court granted injunction restraining the commission from refusing Lone Star Refining Company tenders for movement of oil that had been bought from the state at public auction, following confiscation of it by the state under the new confiscation law. The natural gas proration case set for hearing before the court was that in which Texhoma Natural Gas Company attacked the validity of the railroad commission's orders for the Panhandle gas field, issued under authority of the new Texas gas conservation law. The case was continued.

7. The American Petroleum Institute September 17, launched an economic survey of the oil industry's four divisions: production, refining, marketing, and transportation. Committees for each division met September 17 and 18, preparatory to making preliminary reports at the annual meeting of the Institute at Los Angeles, November 11 to 14. For the production division committee, it is indicated, a principal effort will be the making of a survey of the petroleum reserves of the United States. Such a survey would have a semi-official status, in contrast with the numerous and varying estimates of different geologists, engineers, and economists.

State Compact Seems Farce

Critics of the Interstate Compact as a means for controlling oil production may well smile sardonically, and say: "I told you so." Even at its initial meeting, 10 days ago, the compact proved itself another League of Nations: largely words, completely lacking in power to do anything about its ideals. The irony of the meeting was the role taken at it by

California, which is the only state with serious overproduction currently. California is not a party to the pact. It only sent a representative to "observe" the proceedings. Even the observer got there late.

And then, he brought electrifying news. California is in sympathy with the Interstate Compact—especially as regards restricting states other than California, presumably. California even contemplates trying to get its legislature to ratify the pact—next January. (The state doesn't even have, at present, any ordinary oil-control law, such as have the states in the Mid-Continent; although efforts have been made there repeatedly to enact such a measure. Therefore, California's entry into the pact next January doesn't seem such a cinch).

MEET AND PLAN MEETING.—The oil industry's league of nations will meet again October 11. (The scheduling of that meeting represented the chief accomplishment at the initial meeting, although a commission was established..

Meanwhile, the states of the Mid-Continent go ahead curtailing production, as they were doing right along without the compact. And California takes the role of a Mussolini, working out its own destiny.

This is no criticism of anybody or anything. It's only an effort to evaluate the Interstate Compact honestly. It still has to demonstrate its practical value. So far, it's only a farce, as an instrument for actually preventing overproduction of oil.

MAY BE BOOMERANG.—Of course, one patent object of the compact—if not the primary object—was to forestall federal oil control. In that connection, the proposal probably was successful to some extent. Federal control was defeated.

But even as a federal control preventive, the compact henceforth cannot have value, unless it becomes actually successful. Previously, promises regarding the compact had some weight in Congress. But now the compact actually has begun to function, and henceforth, only results will count. If the results prove miserably futile—as they threaten to do—then the compact may finally serve only to strengthen the federal control cause, instead of preventing federal control. The proposal that was tossed out so nonchalantly may turn out to be a dangerous boomerang.

Rodessa Less Menacing

Recent developments in the Rodessa oil field, North Louisiana, have at least partially allayed the fears of those in the industry who have thought the area might prove a market-breaking pool.

Original predictions were, in some instances, that the field might be 25 miles or so long, and several miles wide; that it might possibly rival the great East Texas field in importance. Moreover, greater proration difficulties than in East Texas were considered possible, since Rodessa field was expected to extend across state lines into eastern Texas and Arkansas, being in a corner of Louisiana.

There is still a possibility that Rodessa may be a comparatively large and important field. But some qualified observers now are talking in terms of a field five or six miles long, instead of 20 miles or so; and of a field that may possibly be confined within Louisiana.

WATER CHANGES PICTURE.—The new viewpoint regarding Rodessa is based on the fact that the field's third oil well, drilled about 40 feet deeper than intended, went on through the oil-bearing lime horizon and into sand carrying salt water. Plugging back reduced the water intrusion, and a second plug-back was in progress late last week, in the hope of eliminating the water encroachment. Consequently, the productive area as developed so far, apparently covering several thousand acres, appears to be assured of important production.

Reserves Survey Interesting

The study of United States oil reserves, said to be contemplated by the American Petroleum Institute committee, mentioned above, will represent an especially valuable service to the industry as well as the nation. Presumably, the estimates will represent a consensus of a group of experts; whereas various estimates hitherto given credence represent only individual opinions and are open to question.

This production division committee is headed by J. Edgar Pew of Philadelphia, vice president of Sun Oil Company, and a former president of the A. P. I. The committee met in Dallas September 18, and was scheduled to meet again in Houston, September 22. Members of the committee include A. I. Leverson, president of the American Association of Petroleum Geologists, and about a dozen past presidents of that association.

Taxes and More Taxes

On a per share basis, taxes in the oil industry last year were more than five times earnings. This was a statement made last week by Baird H. Markham, director of the A. P. I. oil industries committee, to delegates from 15 states, representing the state petroleum industries committees. "While the average earnings of oil companies last year amounted to $1.02 per share," he said, "taxes amounted to $5.32."

Despite the heavy tax burdens already borne by the oil industry and the motoring public, additional taxes are being levied. Filling station operators at Dallas, Texas, are protesting to the city council against a tax of $25 a year recently levied in that city upon filling stations and truck fleet owners. The tax is opposed particularly because it is the same, regardless of the number of pumps at the outlet. Since the Texas Supreme Court upheld a similar tax of the City of Fort Worth some months ago, the idea has been spreading to other cities and towns of the state. Meanwhile the state of Texas is considering new taxes on the oil industry.

Exports Up As War Brews

Increased exports of lubricating oils lately have been attributed to war preparations in the Mediterranean area. The greater export business in lubricants has been at least partially responsible for recent improvement of the market for Pennsylvania grade crude. Last week an Italian tanker left Corpus Christi with a cargo of oil, and another tanker flying Italy's flag was being loaded.

Record Oil Consumption

In the first seven months of this year, the domestic demand for motor fuel set an all-time record, for such period, running 4.6 percent above last year's similar demand. Also the July demand represented a new monthly record, considerably exceeding the previous record of August, 1931, and being 10 percent above the demand in July of last year.

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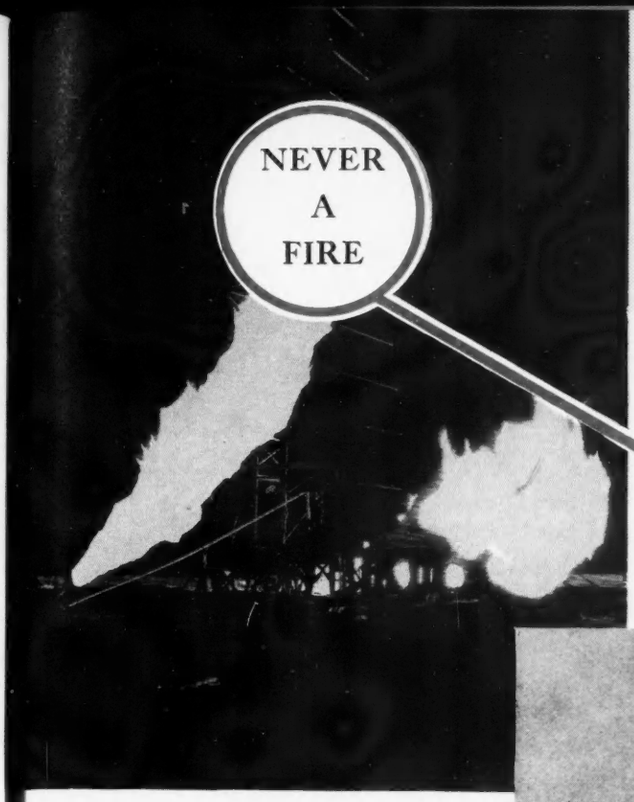
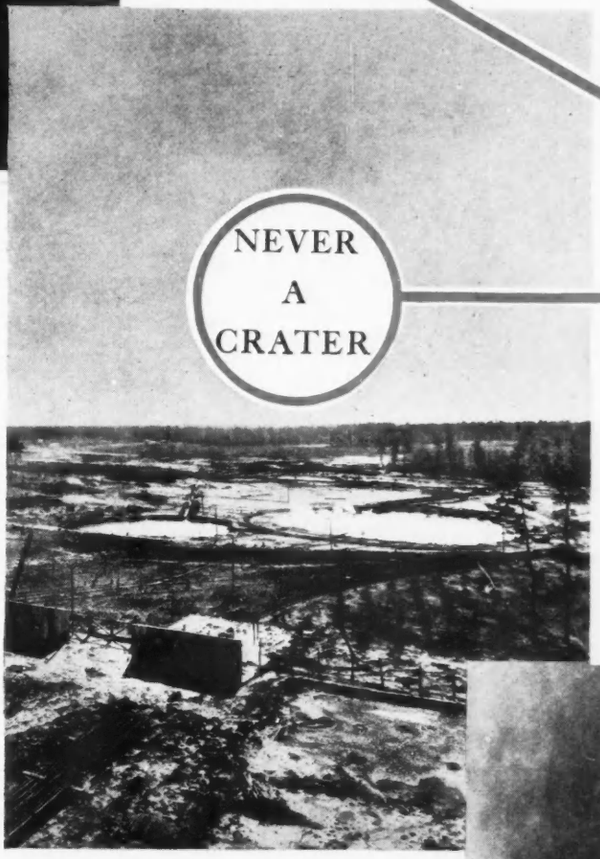
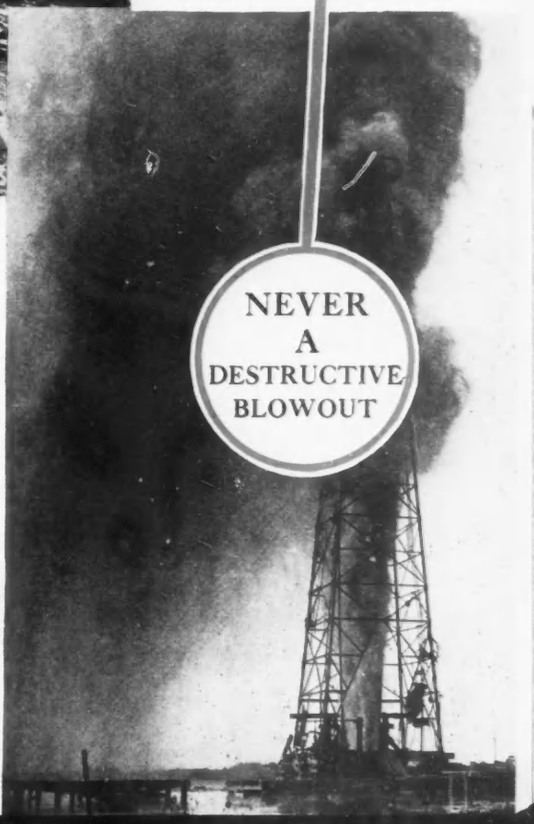




WHERE COLOX WAS USED



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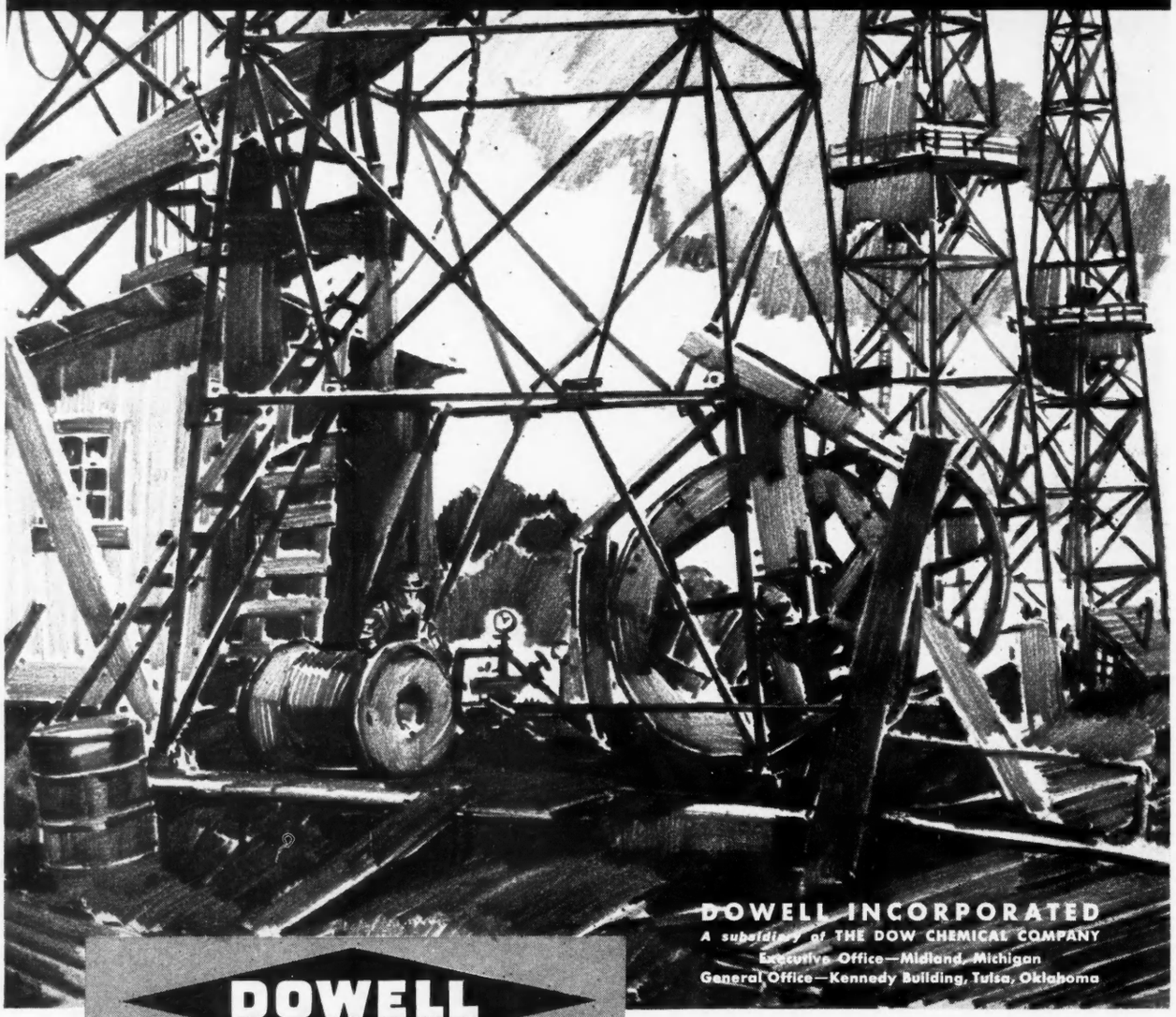

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MEN IN THE INDUSTRY'S NEWS

A. S. "ANDY" RITCHIE, chairman of the Kansas Chapter of the American Petroleum Institute, has resigned as vice president of Derby Oil Company to assume active management of McPherson Drilling Company. He at one time was connected with the production department of Continental Oil Company.

A. I. LEVORSEN, president of the American Association of Petroleum Geologists and formerly chief geologist for Tide Water Oil Company, has returned with his family to Tulsa where they will again make their home.

J. W. GRAYBEAL, petroleum engineer in the production division of Humble Oil & Refining Company, has been transferred from Houston to Midland, Texas. He will succeed A. D. Eady, who has been transferred to the new Anahuac field in Chambers County, Texas Gulf Coast.

L. B. BERRY, scout for Shell Petroleum Corporation, has been transferred from East Texas to Eastland, Texas, where he will function in the West Central Texas district.

CLYDE BARRON was transferred from Hobbs, New Mexico, to the Atlantic Pipe Line Company's tank farm at Midland, western Texas.

M. CONSTANTINESCU, Ploesti, Rumania, assistant drilling superintendent of Unirea Societate Anonima Romana de Petrol, in last week's issue of THE OIL WEEKLY was mentioned in such a manner as to indicate he had been spending nearly six weeks in the study of controlled directional drilling. This impression was erroneous, as Mr. Constantinescu has spent the time studying Gulf Coast drilling and production problems in general.

H. BARNEY WHISENANT, of the firm of Whisenant & Trenchard, petroleum geologists and engineers, San Antonio, has just returned from a vacation in California.

H. E. SULLIVAN, superintendent for Benedum & Trees and A. F. Holliday, has opened offices in the Nixon Building, Corpus Christi. K. K. Simmons, field superintendent for the operators in the Saxet field, also is in this office.

E. C. MONCRIEF, head of the geological department, and Glenn Wooley, a member of his staff for Derby Oil Company, have returned to headquarters in Wichita, Kansas, after an inspection trip to the Rodessa area of Texas and Louisiana.

H. J. ZOLLER, production engineer for Shell Petroleum Corporation, has been given a three-months' assignment to the McPherson, Kansas, district. The district includes most of western Kansas.

MILTON HRUBY, district geologist, Magnolia Petroleum Company, San Antonio, and family are touring in California.

DR. GEORGE W. STOCKING has resigned as chairman of the Petroleum Labor Policy Board to return to his former post as professor of economics at the University of Texas. For the past two months, Dr. Stocking, in addition to his work on the oil board, has been serving as chairman of the Labor Department Arbitration Board. He came into Government service in 1933 as a member of the committee on Government statistics and information service, later being appointed a member of the Consumers Advisory Board of the NRA before taking the chairmanship of the Petroleum Labor Policy Board.

W. P. JENNY, consulting geologist and geophysicist, has returned to Houston after an extended business trip in the Oklahoma fields.

J. G. FARQUHAR, vice president and treasurer for Plymouth Oil Company, Pittsburgh, has been making frequent visits to San Antonio and Sinton, where the company has become unusually active.

CAPTAIN T. RIEBER, chairman of the board of The Texas Company, was in Shreveport last week making a tour of North Louisiana. He came to Shreveport from Houston by airplane. After visiting the Rodessa and other Caddo fields he visited Kilgore, Texas, then returning to Houston. B. E. Hull, president of Texas Pipe Line Company, accompanied him.

W. W. HARVEY, of Harvey & Henderson, independent producers, San Antonio, has returned from the West Coast, where he was vacationing.

W. L. WEATHERALL in the production division of Humble Oil & Refining Company, has been transferred to Midland, Texas, where he succeeds Aaron Uphaus, who is now located in the company's Houston office.

L. B. (DUTCH) SNIDER, independent geologist, has returned to South Texas after doing considerable work in the Kansas district. He is headquartering in San Antonio.

FRANK CHAMPION, general sales manager of the oil tool division of the Byron-Jackson Company of Los Angeles, was a recent visitor in Tulsa. His plans called for a general trip through fields and oil centers in the Mid-Continent and Texas fields.

H. C. SHAW, pipe line superintendent for Houston Oil Company, Bruni, was seriously injured in an automobile accident near Crestonia recently. He is recovering at the Nix Hospital, San Antonio.

ERIC A. RUDD, geologist with Oil Search, Ltd., Sydney, N. S. W., Queensland, Australia, left Houston September 19, for Mexico. After seeing something of the Mexican fields, Mr. Rudd will spend a period in California studying geological conditions and operating methods before returning to Australia.

H. BLOEMGARTEN, vice president in charge of production for Shell Petroleum Corporation, St. Louis, is on a visit which is taking him through the pools of Kansas, Oklahoma, Texas and New Mexico. While in Oklahoma and Kansas he was accompanied by Ralph B. Roark, production manager of Tulsa. Bloemgarten spent some time in the United States about a year ago and returned about two months ago to assume his present position.

C. C. HEARN has been appointed special representative in Oklahoma and Kansas for Diamond Metal Company and Miller Fuel Engineering Company, both of Houston. Hearn will have his office temporarily at 316 East Eighth Street, Tulsa.

W. G. FRENCH, president French Oil Corporation, has moved from Laredo to Corpus Christi. The company recently opened land and geological offices there.

J. SCOTT BLAIR, of the production department of Sinclair Prairie interests, has been transferred from Eastland, Texas, to the Midland, Texas, district.

PROF. WILLIAM A. IRWIN of Washburn College, Topeka, Kansas, addressed the Tulsa Engineers Club on Friday evening, September 20, presenting as the chief topic of the evening the subject, "Where Is American Business Headed?"

BOB JEANS, draftsman for Humble Oil & Refining Company, Houston, is now on a vacation in West Texas. He is expected to return in two weeks.

T. M. SMITH, of W. K. M. Company, Inc., has moved from Houston to Corpus Christi. He handles pipe line and oil field equipment for the South Texas district.

PHIL F. MARTYN, geologist for Houston Oil Company of Texas, was speaker at the Houston Geological Society weekly meeting on September 19. He discussed the Refugio oil and gas field of Refugio County, Texas.

L. D. LADD and family have returned home to Fort Worth from a vacation trip to California. Ladd is an independent operator.

H. C. POTTS, vice president of the Kerotest Manufacturing Company, Pittsburgh, has been visiting South Texas fields. He was accompanied by Ed. Isaacks, Houston, representative for the company.

JOHN P. THOMPSON, district geologist for Amerada Petroleum Corporation, San Antonio, led a discussion on Navarro sand fields of South Texas in a symposium presented before the regular monthly meeting of the San Antonio Geological Society, September 16. His paper covered the new Pearsall field of Frio County. Ike Sheldon, of the Marzo Oil Corporation, San Antonio, presented a valuation paper on the Eckert field of Bexar County. Joe M. Dawson, Gulf Production Company, San Antonio, dis-

cussed the Somerset field. E. D. Pressler, Humble Oil & Refining Company, Uvalde, discussed the Ina-Hondo area.

ALFRED C. McAFEE has established South Texas district offices in Corpus Christi for Oil Center Tool Company.

FRED WILCOX, of Midland, Texas, geologist for Magnolia Petroleum Company in the Permian Basin of West Texas, was recently in Fort Worth.

CHARLES MURPHY has been transferred from the Beaumont store of The National Supply Company to Electra, Texas. W. H. Taylor has been transferred from the company's Houston office to replace Mr. Murphy at Beaumont.

E. M. HENSON, driller for Texas Pacific Coal and Oil Company, has been transferred from McCamey, Texas, to Midland, Texas.

FRANK FOWLER of Houston Oil Field Equipment Company, Sinton, has been making frequent trips through that active territory.

CHIC GRAHAM of Texas Steel Products Company, Fort Worth, was another recent South Texas visitor.

WILLIAM D. HUME, general auditor for Skelly Oil Company, died in a Tulsa hospital on Monday afternoon, September 16, of a bullet wound in the head. Officers said in their report on the investigation that he had shot himself. Hume was a native of Scotland, a graduate of St. Andrews University in his native country, and was 51 years of age at the time of his death. He first came to the United States in 1911 but returned to serve with a Scottish regiment during the World War. He had been employed by Skelly Oil Company for 13 years and was highly regarded by his associates. Despondency over ill health was given as the cause of his act.

GEORGE L. O'LEARY, Houston, vice president of Oil Field Material Company, Houston, has completed a tour of the South Texas fields.

CONVENTION TRAIN

Deluxe trains to carry men to A.P.I. meeting

NEW YORK.

ALL the "comforts of home" are being prepared for oil men traveling to the American Petroleum Institute's 16th annual meeting at Los Angeles, Calif., November 11 to 14 by the Rock Island and Southern Pacific railroads. An "Institute Golden State Limited" will leave Chicago at 8:45 p. m., Friday, November 8, and Kansas City at 9:40 p. m., Saturday, November 9, and arrive at Los Angeles at 7:40 a. m., Monday, November 11.

Features the railroads include among the "comforts of home" are air-conditioned club and observation cars, with shower baths, maid service, and lounge for ladies, and shower baths, barber and valet service, and news and market reports for the men. "Sun parlor" observation cars will make available also a well-stocked library.

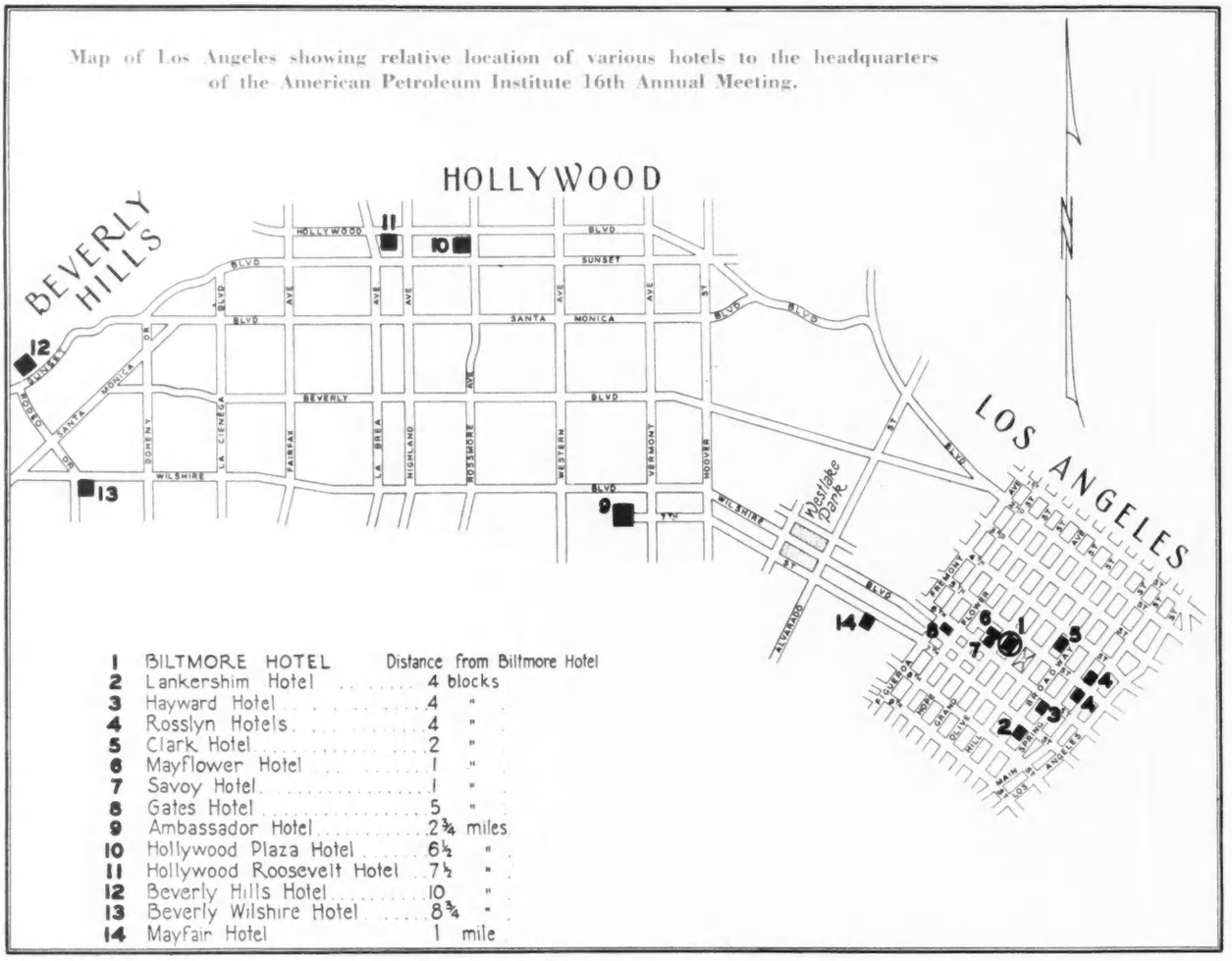
Not only will modern air-conditioned Pullman cars be operated from Chicago, but arrangements will be made whereby parties traveling from eastern points may have through sleeping cars from home city to Los Angeles.

GASOLINE TAX UP

WASHINGTON, D. C.

FEDERAL gasoline tax collections in August reached the high figure of $20,477,877, an increase of $8,464,000 over the July total of $12,013,536, and $5,745,000 in excess of the $14,732,748 collected in August, 1934, according to figures made public this week by the Bureau of Internal Revenue. In the first two months of the current fiscal year, it was reported, collections totaled $32,491,413, an increase of $5,357,019 over the $27,134,394 received in the corresponding period last year.

Map of Los Angeles showing relative location of various hotels to the headquarters of the American Petroleum Institute 16th Annual Meeting.



		Distance from Biltmore Hotel
1	BILTMORE HOTEL	
2	Lankershim Hotel	4 blocks
3	Hayward Hotel	4 "
4	Rosslyn Hotels	4 "
5	Clark Hotel	2 "
6	Mayflower Hotel	1 "
7	Savoy Hotel	1 "
8	Gates Hotel	5 "
9	Ambassador Hotel	2¾ miles
10	Hollywood Plaza Hotel	6½ "
11	Hollywood Roosevelt Hotel	7½ "
12	Beverly Hills Hotel	10 "
13	Beverly Wilshire Hotel	8¾ "
14	Mayfair Hotel	1 mile

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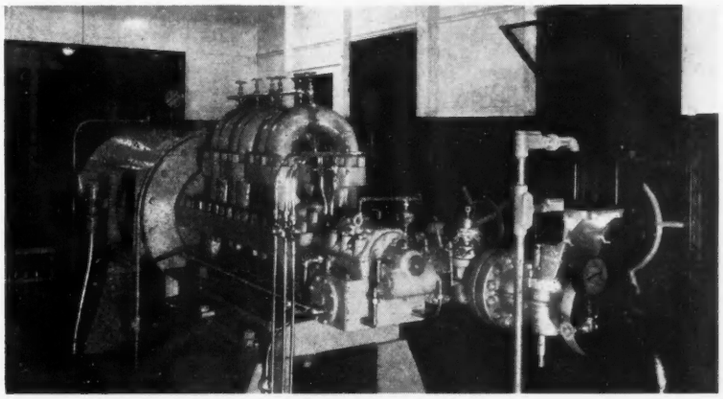

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Checking Gas Engine Performance

WITH THE INDICATOR HAS ADVANTAGES

By JOSEPH LISTON, Assistant Professor,
School of Mechanical Engineering
The University of Oklahoma

« PART I »

IN REGIONS where natural gas is very plentiful and of almost negligible cost, such as close proximity to flush oil fields, little attention has been given to obtaining the most economical performance in gas engines. However, in many fields, the flush period is over, and gas is becoming increasingly scarce. With increasing cost of fuel, the importance of a closer check on economy of operation is apparent.

The indicating of gas engines, long a method used in technical schools to study engine performance, has been neglected in many commercial gas engine installations due, in part, to a lack of cost saving incentive, and partly to the lack of experience of operators in judging results. It has been the writer's observation that, even among the few operators who do check performance with the indicator, the usual procedure is to take a few cards, inspect them casually without observing the significance of the various details, and then discard them. This last is particularly unfortunate as no reference material is available for comparison with future cards, and memory cannot be relied upon to note and interpret differences.

In the following, the attempt is made to aid the operator by pointing out some of the important card details. The discussion is limited, in the main, to the two-stroke cycle gas engine.

The Theoretical Card

Gas engines operate upon the so-called Otto cycle or constant volume combustion principle. In the elementary engine, Figure 1, the piston motion is from A to B and back to A. Consider a new charge of fuel-air mixture to be in the cylinder when the head of the piston is at A. As the piston moves toward B, the space to the left of the piston decreases, and the pressure rises from atmospheric at 1 on the pressure-volume diagram to 2, the compression pressure, when the piston has reached B. The volume covered by the piston in moving from A to B is called the displacement. It is found from

$$D = \frac{\pi}{4} d^2 l$$

where D is the displacement in cu. in.
$\pi = 3.1416$
d is the diameter of the cylinder in inches.
l is the piston stroke in inches, i.e., the distance from A to B.

The volume of the cylinder to the left of the piston when the latter is at B is called the clearance volume, C. The compression ratio is

$$CR = \frac{C + D}{C}$$

When the piston is at B, the spark ignites the charge and the resulting liberation of heat causes the pressure to raise from 2 to 3. Then the piston is forced back to A with the resulting drop in pressure from 3 to 4, and finally heat is expelled to the exhaust from 4 to 1. Then the cycle is repeated. In the actual engine, of course, some means such as ports or valves must be provided to admit the new charge and allow the escape of the burned gases.

In the theoretical engine, two questions are of importance, i.e., how much useful work can be obtained from the engine, and what is the efficiency? During compression and expansion of the charge, the pressure-volume changes can be expressed by

$$P_1 \times V^n_1 = P_2 \times V^n_2$$

and

$$P_3 \times V^n_3 = P_4 \times V^n_4$$

where P with the proper subscript represents the cylinder pressure at the different piston positions
V with the proper subscript is the corresponding volume to the left of the piston
n is an exponential factor having a value of about 1.4 for adiabatic (i.e., no heat loss) conditions, and a value usually between 1.25 and 1.35 in the actual case.

The work done by the charge in one complete cycle of operation corresponding to the motion of the piston from A to B and back to A is

$$W_{net} = W_{ex} - W_c$$

where W_{net} is the net or useful work
W_{ex} is the work of expansion, i.e., the work done by the expanding gas in pushing the piston back from B to A
W_c is the work done in compressing the charge.

$$W_{ex} = \left(\frac{P_3 V_3 - P_4 V_4}{n-1}\right) \times \frac{1}{12}$$

$$W_c = \left(\frac{P_1 V_1 - P_2 V_2}{n-1}\right) \times \frac{1}{12}$$

In these two expressions for the work of expansion and compression, the pressures are in pounds per square

inch abs. and the volumes are in cubic inches. The work thus determined is in foot pounds. The theoretical horsepower for the two-cycle engine is

$$\text{I.H.P.} = \frac{W_{net} \times \text{R.P.M.}}{33{,}000}$$

and for the four-cycle engine

$$\text{I.H.P.} = \frac{W_{net} \times \text{R.P.M.}}{33{,}000 \times 2}$$

where I.H.P. is the indicated horsepower
R.P.M. = the number of revolutions per minute.
The efficiency is usually expressed in terms of the compression ratio as

$$E = 1 - \frac{1}{CR^{n-1}}$$

where E is the thermal efficiency, i.e., the proportion of the heat energy that can be converted into useful work
CR is the compression ratio
n is the same as above.

Actual efficiencies in gas engines for best performance range usually from 18 to 25 percent, and they are considerably less than theoretical efficiencies, but the variation in efficiency with compression ratio parallels theoretical variation. Figure 2, showing the increase in efficiency with compression ratio, illustrates the importance of increasing the compression ratio.

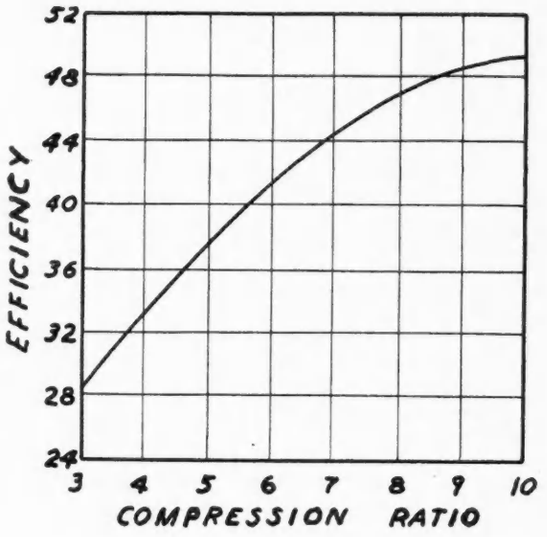


FIGURE 2

Theoretical variation of thermal efficiency with compression ratio in the natural gas engine

Actual Cards

While the theoretical card is useful in an understanding of the basic principles of the internal combustion engine, the actual card is, for the operator, of greater

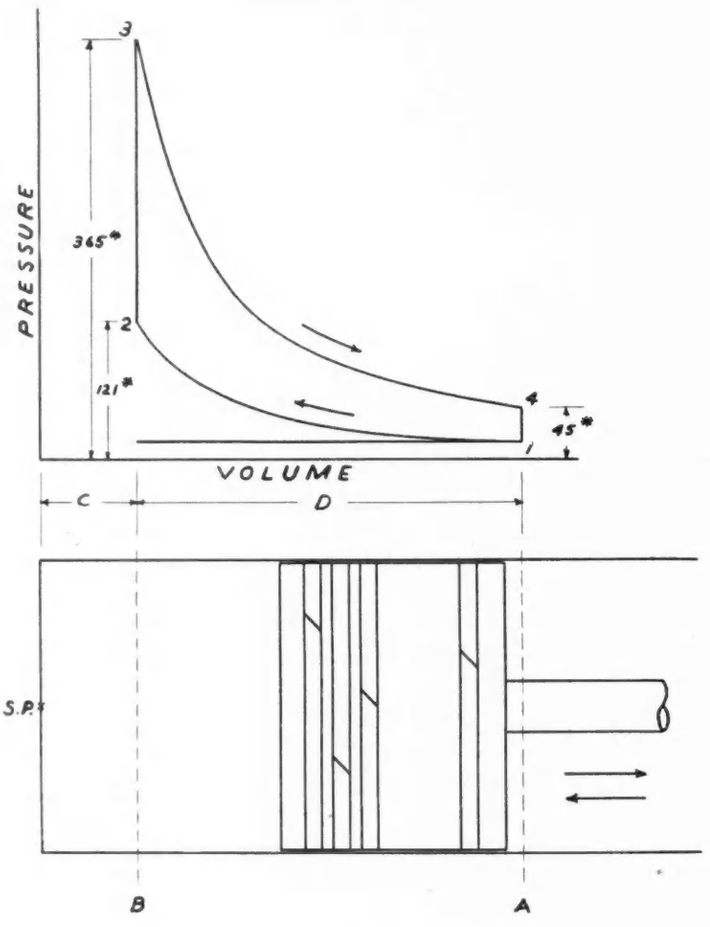


FIGURE 1

Theoretical Otto-cycle pressure-volume diagram for the natural gas engine.

value. Figure 3, typical of full load performance, was taken from a 35-horsepower natural gas engine. For purposes of illustration, the cylinder is sketched to the same scale and in correct position below the card. The action is as follows:

Assuming the edge of the piston is in position A, as shown, the new charge will be entering through the inlet port, deflected toward the head of the cylinder, and pushing out the burned charge through the exhaust port. Most of the new charge will remain in the cylinder, and most of the burned charge will escape, but even in the best designs some new charge escapes out the exhaust, and some burned charge remains to dilute the new charge.

As the piston moves toward the left, the ports are gradually covered, but compression does not begin until the edge of the piston reaches point F, some 15 to 20 percent of the distance from A to B, and prevents further escape of the gases. Obviously, the actual or effective compression ratio is $\frac{C+D'}{C}$ and not $\frac{C+D}{C}$ as would be indicated by the cylinder dimensions.

When the piston has reached B, the cylinder pressure has increased to 2, but due to a lag in burning and to the fact that the charge will not burn instantly, the spark occurs at point X before the piston has reached the end of the compression stroke. This advancing of the spark is necessary, as can easily be demonstrated, to get the best performance out of the engine.

From 2 to 3 the pressure rises due to burning of the fuel and the liberation of heat, and, as this combustion reaction takes an appreciable time, 3 is not vertically above 2 as in the theoretical case. The piston has moved part of the way back toward A by the end of the burning period, and from 3 to 4, a distance less than in the theoretical card, expansion takes place.

After the edge of the piston has reached F, however, it begins to uncover the exhaust port thus allowing an escape of the expanding gas. The cylinder pressure then drops rapidly from 4 to 1, and as soon as the pressure in the cylinder falls below the pressure on the inlet pipe, new charge begins to enter, and the process is repeated.

It is seen from the card, Figure 3, that the pressure variation from 2 to 3 is not always the same. This is due to variations in the amount of fuel admitted by the governor. Such variations change the air-fuel ratio which in turn affects the strength of the mixture.

In determining the work and efficiency from the actual card, a different procedure is used. The area enclosed in the card, representing work in foot pounds, may be found with a planimeter. From this area, read from the planimeter in square inches, the mean effective pressure is found as follows:

$$\text{IMEP} = \frac{a \times s}{l}$$

where IMEP is the indicated mean effective pressure in pounds per square inch.
a is the area of the card in square inches.
l is the length of the card in inches.

The horsepower is

$$\text{I.H.P.} = \frac{P\,L\,A\,N}{33{,}000}$$

where I. H. P. is the indicated horsepower
P = IMEP
L is the stroke of the engine piston in feet
A is the area of the engine piston in square inches
N is the R.P.M.

The efficiency is

$$E = \frac{2545}{F_e \times \text{H.V.}}$$

where E is the indicated thermal efficiency, i.e., the portion of the heat supplied that does useful work in the cylinder
2545 is the heat equivalent of a horsepower-hour
F_e is the ratio of the cubic feet of gas supplied per hour to the indicated horsepower
H.V. is the heating value of the gas in B.t.u. per cubic foot.

Figure 4 shows three fractional load cards taken from

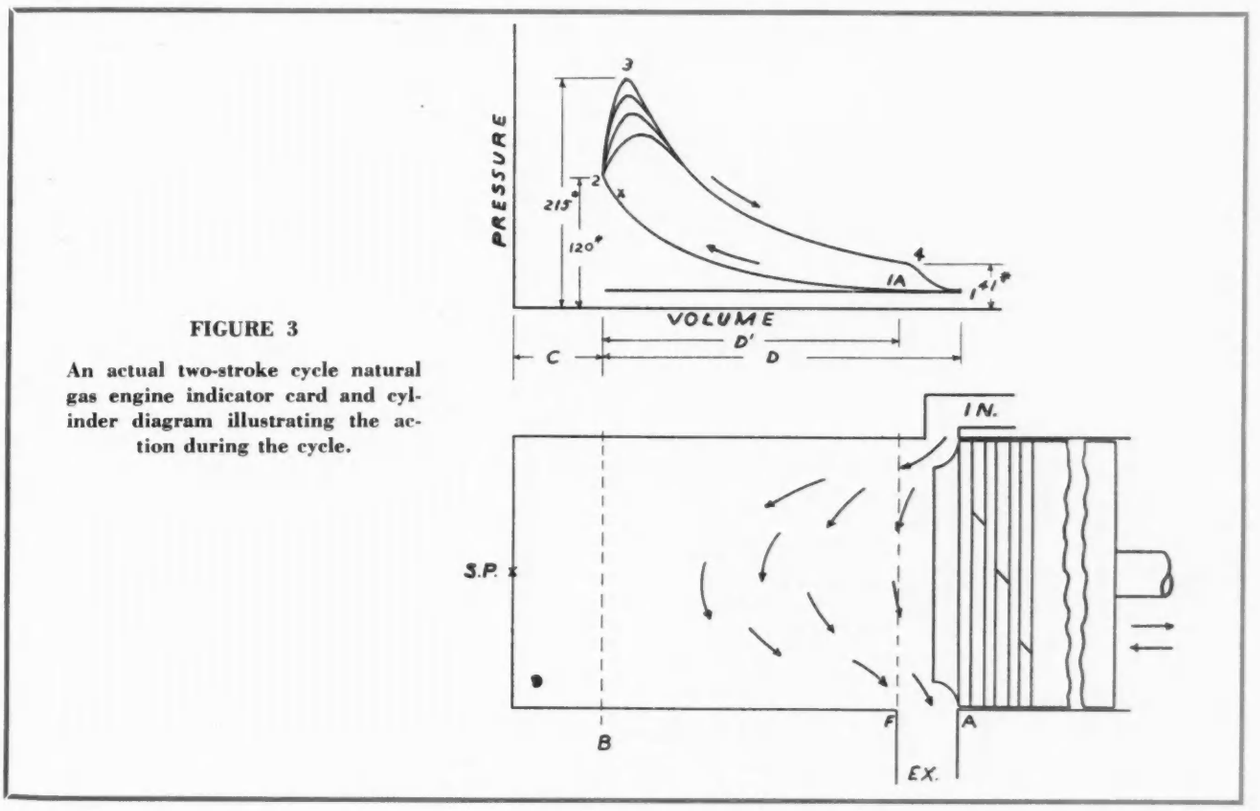


FIGURE 3

An actual two-stroke cycle natural gas engine indicator card and cylinder diagram illustrating the action during the cycle.

a natural gas engine. Comparing these cards with the full load card, Figure 3, it is seen that

The maximum pressure does not rise as high.

The highest point, 3, is displaced farther to the right of the compression point, 2.

There is a wider variation of the pressure rise lines.

These differences are due, in the first instance, to less energy being released in the cylinder per cycle. As the load is decreased, the governor acts to decrease the amount of fuel admitted, and, as the amount of air taken in remains the same, the mixture becomes leaner. Numerous tests have shown that lean mixtures do not burn as rapidly as correct mixtures, and this shows up in the cards under consideration as a less rapid pressure rise from 2 to 3.

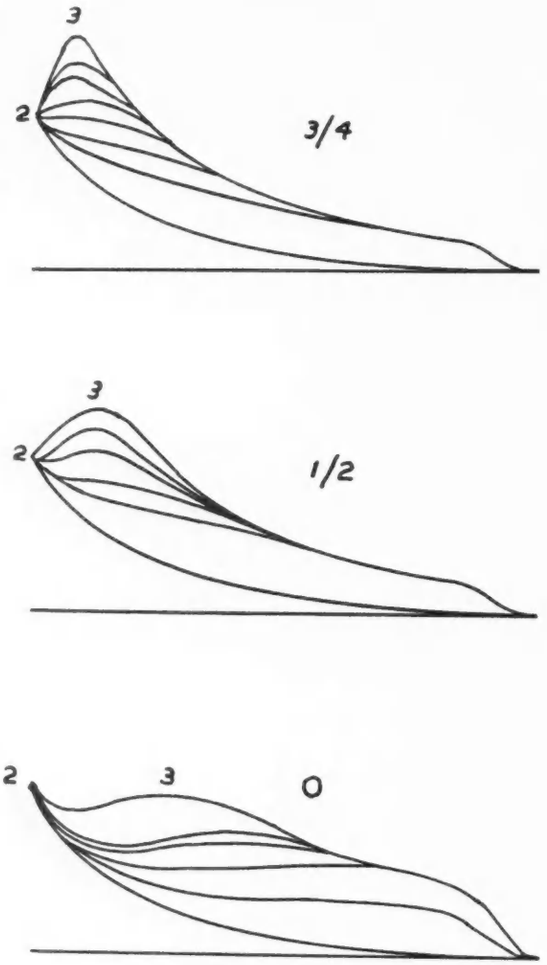


FIGURE 4
Three-fourths, one-half, and zero load power cards from a two-stroke cycle natural gas engine.

The wider variation in the successive cycles may be explained in part by the action of the governor. When a power stroke occurs at light loads, the momentary increase in speed is greater than at full load because less resistance to turning is encountered. This over-speeding causes the governor to slightly over-control and cut off more fuel than necessary. Hence, the succeeding cycle is very lean and insufficient power is developed to maintain the speed. Then the governor admits too much fuel and the engine over-speeds again. If an excessively rich mixture is admitted, the rate of burning may again be less than normal with resulting further variation in the lines.

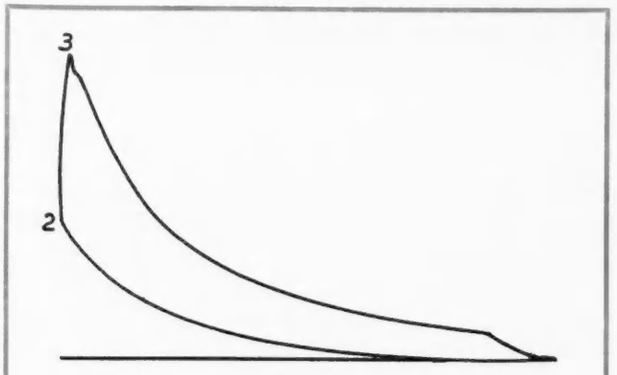


FIGURE 5
A power card showing the effect of early ignition timing. Note the rapid pressure rise from 2 to 3 and the sharp point of the card at 3.

A retarded spark results in a card similar to the light load cards in Figure 4. It is often difficult to tell whether a low rate of pressure rise from 2 to 3 is due to rich or lean mixtures or to late spark timing, but by loading up to near rated capacity, the effort of the engine may be some indication. However, so many other factors are involved that it is probably best in most cases to check the spark timing by other means such as trammeling.

Too advanced a spark will show very sharp pressure rises and very high peak pressures with the top of the card shaped more like Figure 1. The fact that such cards appear to approach the theoretical card more closely is not an argument for operating the engine with the spark too far advanced as the rapid pressure rise produces a severe hammering or shock on the engine mechanism that is detrimental to the life of the bearings. Figure 5 shows a card from a natural gas engine having the spark too far advanced.

Occasional failure of the charge to fire results in cards like Figure 6. If a charge fails to fire, on the succeeding intake period more fuel is admitted and a more complete scavenging of all burned gases results. Hence, a more powerful charge is available which results in higher peak pressures. These high pressures, especially at full load, cause severe shock to the engine mechanism.

The second and concluding part of this article will appear in an early issue of THE OIL WEEKLY.

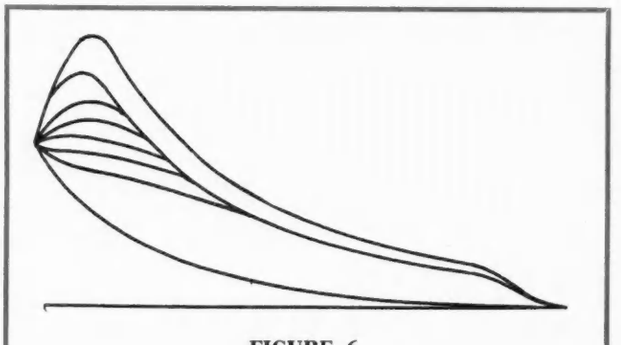
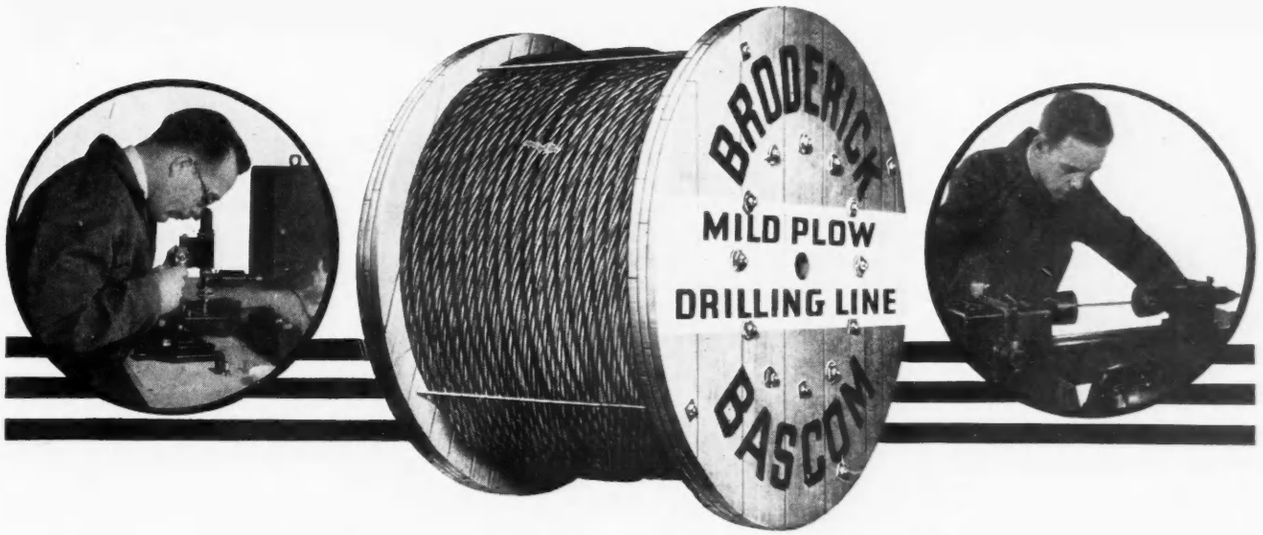


FIGURE 6
A power card showing the effect of faulty ignition.



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ACID IS BEING USED FOR

Cleaning Intake Wells

IN WATER FLOODED AREAS

By J. C. ALBRIGHT

OIL producers who operate flood properties in Pennsylvania, especially in the Bradford field, have found that one of the most important items to consider is the quality of the water injected into the sand. Frequently the most favorable water, under certain conditions, forms an impregnable film on the sand face, which builds up such a resistance to the flow of water that the input rates are greatly reduced. Water used that is not of the purest, containing matter in solution, or suspended, causes the sand face to become fouled more rapidly.

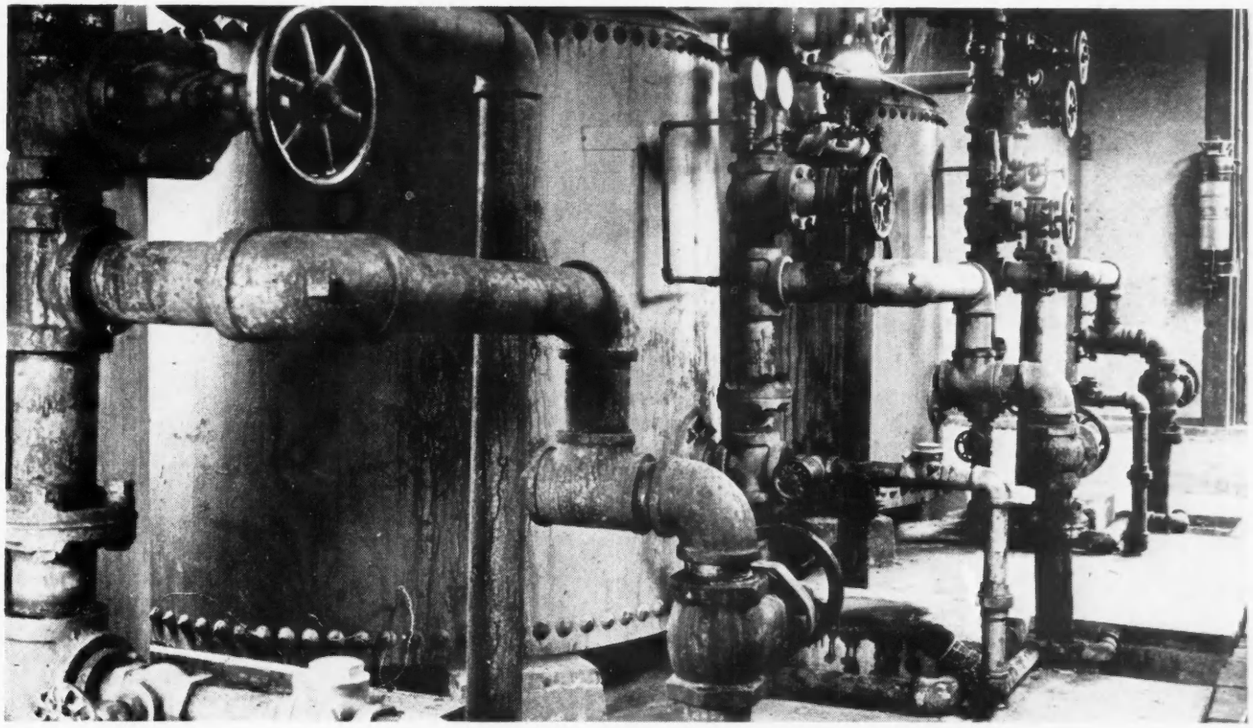
Acid Treat Water Wells

When such condition exists steps must be taken to correct the evil. A veriety of methods have been used in the Bradford field to clear up these conditions. Within the past six or eight months, a few companies who operate flood properties in this district have turned to hydrochloric acid as an aid in cleaning the sand face of the shot hole in the water, or intake wells. Two methods are being used to clean out the hole, as well as to introduce the acid into the well.

Sloan & Zook have treated only two wells by using acid; the first took place on August 6, 1935. This well is known as Summit C-5, in McKean County. It had become so well sealed off by the accumulation of foreign matter on the face of the sand that the input rate had declined to three barrels of water per day.

The method used by this company in applying acid is to first disconnect the well from the flood system water lines. The water wells of this company are equipped with a string of casing, packed off at the top of the sand that is being flooded, and a part of the annular space filled with cement. The water string, or input line consists of two-inch tubing, packed off at the desired point in the sand and cemented. Not all the input wells are cemented, however, and reliance is placed upon the successful operation of the packer in preventing the water from

Hook-up on well when acid is being used to clean the sand face in water intake wells of Sloan & Zook on the Summit lease.



Three filters used by Sloan & Zook on the Summit lease for cleaning water used in flooding operations.

returning back to the surface through the annular space between the tubing and casing.

The second step is to run a string of ¾-inch pipe inside the tubing, and connect it to the water system. The well is flushed out as the small pipe descends down the hole. Pipe scale, rust and other foreign matters are washed from the surface of the tubing in this manner, and all accumulation of mud, loose sand, etc., is also brought to the surface. This flushing operation, with clear, fresh water, is continued until no indication of sediment is noted in the water coming from the tubing.

As it is necessary to rig up a pulling machine, gin pole or tripod at the well, bring in a tractor equipped with a winch, this part of the flushing operation consumes the greater part of a day, especially when working on the top of a hill, where the well is approximately 2200 feet in depth. After the well has been thoroughly cleaned, a "tub tank" is rigged up near the well, connections placed on it and the string of ¾-inch pipe and the acid is ready to be used.

Six carboys of 20° Baume muriatic acid, each carboy containing approximately 115 pounds, are emptied into the tub tank. A gate valve placed in the connecting line between the tub tank and the top of the ¾-inch pipe is closed while this is being done, and the resulting liquid, six carboys of the acid and an equal amount of water, is then permitted to run into the well.

Because of the absence of a flowing head in the well, it is not necessary to employ a pump, so the weight of the diluted acid is all that is required to siphon the fluid into the ¾-inch inserted line. Only a few minutes are consumed in this operation, and after the acid has all run from the tub tank, it is followed with about a half barrel of water. The hole is left undisturbed 72 hours, with the acid remaining in contact with the face of the sand in the shot hole.

After that time, the ¾-inch pipe is again connected to the field water pressure line and the well flushed of all spent acid, scale that is loosened from the pipe, and the sediment in the bottom of the hole. When this operation has been completed, the well is again placed in service. Summit C-5, the first well treated, immediately began taking water at the rate of 50 barrels for the first two days, and settled to 35 barrels per day for the remainder of the month. D-4, on the same lease, was being treated with acid, using the above outlined method when the observations were being made.

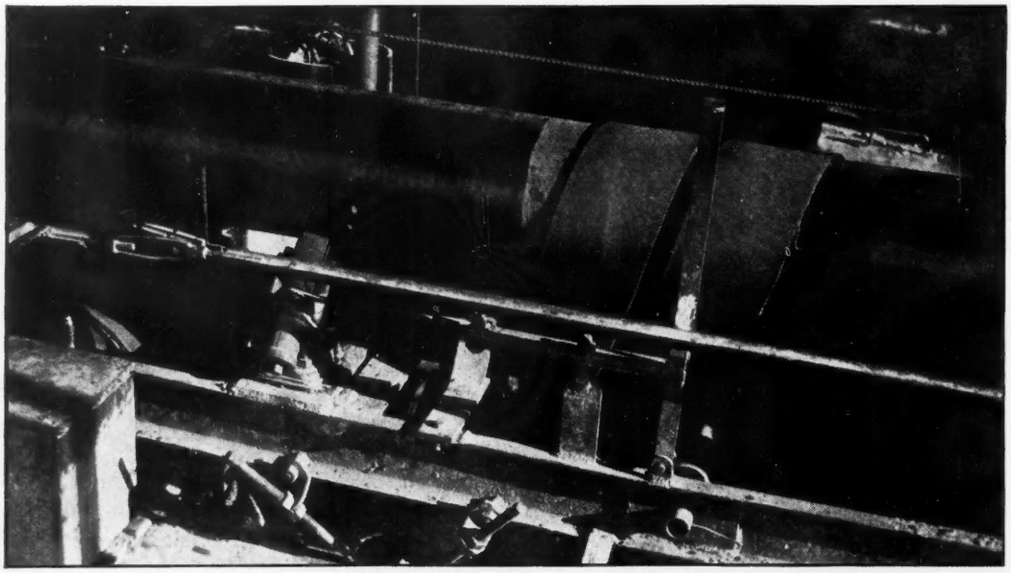
Another Acid Treating Method

Forest Oil Corporaiton, one of the largest operators of flood properties in the Bradford sand, uses a different method, but secures approximately the same results. This company operates with a higher intake pressure than most companies using the waterflood method of producing oil, and in some instances reaches a pressure of 1800 pounds on the discharge of the pumps. This company uses a portable air compressor which is taken to the well about to be treated, and a string of ¾-inch tubing, with the bottom joint open, is run into the well. Each 500 feet of the water tubing is washed out when running in the ¾-inch pipe, during the first run, and each two joints are flushed during the running of the last six joints of ¾-inch pipe.

Air is used to blow out the sediment in the pipe when the ¾-inch pipe has reached bottom. Frequently, after a well has been operated as an input well for some time, varying from a few months to several years, enough sediment has accumulated to

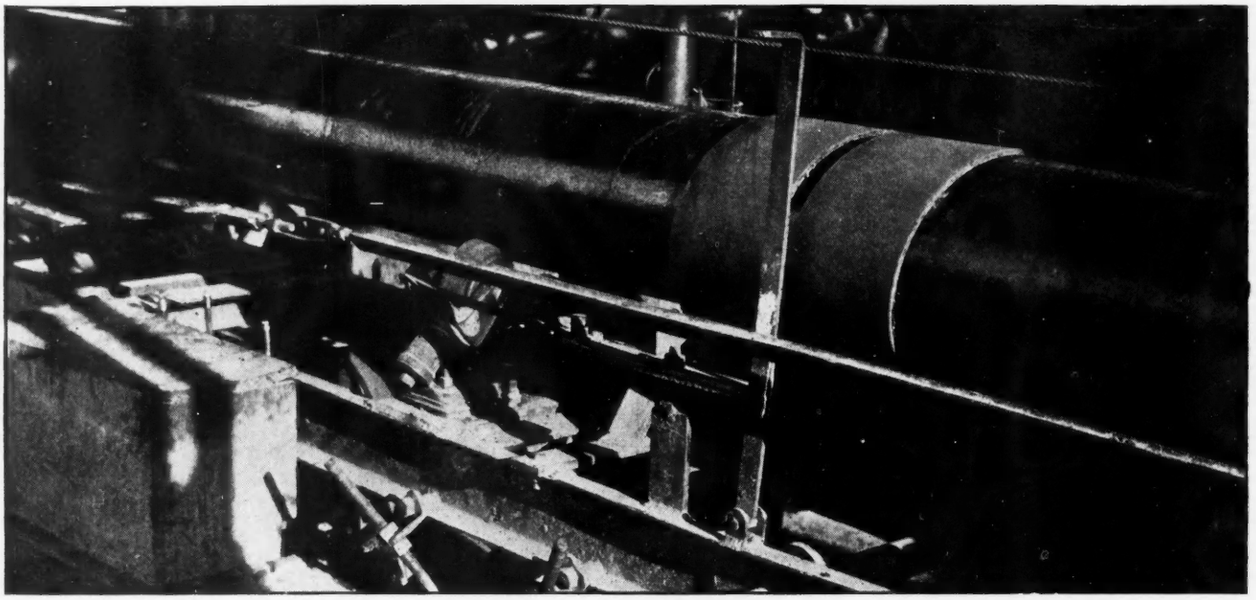
"ALL OTHER BELT SPLICES

PLYLOCK



TOP—
The tremendous tension (5100 lbs.) under which this belt travels can be seen as the belt travels over the ring between two pipe ends —note the outline of the ring through this 7 ply belt.

BOTTOM—
The Plylock Splice itself as it passes up over the pipe.



Goodrich

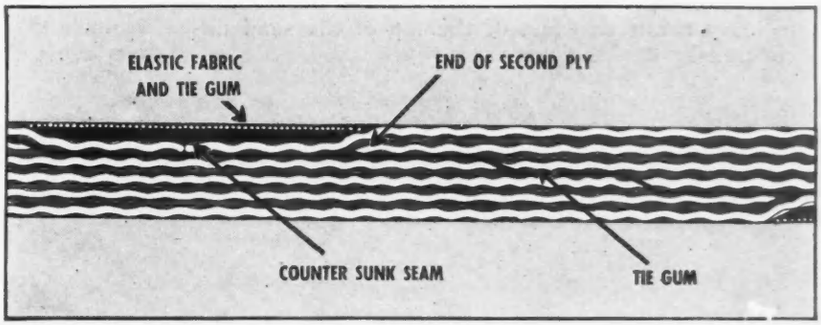
FAILED IN 2 HOURS
SPLICE STILL GOOD AFTER 14 DAYS"

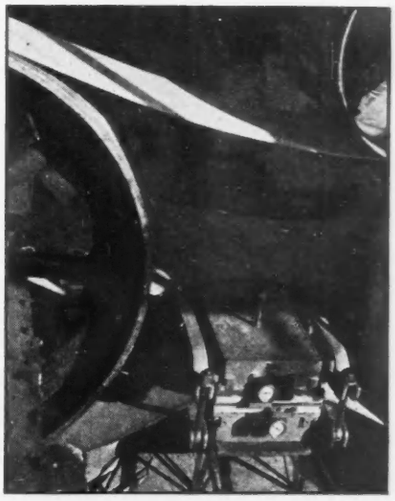
THE BELT SPLICE that can stand this service can stand anything. As part of the process of applying asphalt to 12″ steel pipe in a western plant, the pipe itself is the "driven pulley." Two turns of the belt around the pipe causes it to turn and move forward at the same time. Total tension of the belt is 5100 lbs. Driving mechanism below the pipe includes two 90° quarter turns of the belt.

Here is one of the most tortuous tests in industry of a belt and splice. Every brand of belt and method of fastening had been tried but maximum service was two hours, with most belts failing in one hour.

Then an engineer heard of the Goodrich Plylock Splice. It was tried. At the end of *14 days* the belt and splice were still good but a plant shut-down was taken advantage of to put on a new Goodrich Belt, made endless on the machine with the Plylock Splice.

Here is a case in which Goodrich Highflex Belt made endless by the Plylock Splice outlasted all other belting and methods of fastening at least 50 to 1. To see the reason for this phenomenal strength of Plylock you need only examine the splice. You will see that the end of the outer ply, where most belts fail, is carried under the surface, covered and vulcanized in a permanently protected construction safe from wear and windage. Call your Goodrich distributor and see how this improved belt method can save money for you. The B. F. Goodrich Company, Mechanical Rubber Goods Div., Akron, Ohio.





The Plylock Splice being vulcanized by the portable vulcanizer without removing the belt from the drive.

ALL *products problems* IN RUBBER

Highflex Belting

PLYLOCK BELT JOINT

U. S. PATENT No. 1,996,529

prevent the ¾-inch pipe from reaching the bottom of the hole. In this case, two barrels of water are run into the hole, and air is used again. This is continued until the bottom of the hole has been reached. After the old bottom has been established, blowing is repeated three times, using two barrels of water during each blowing. Blowing with air is continued after the last application of water until the hole is dry, and the ¾-inch pipe is empty.

When the well has been blown dry, with the ¾-inch pipe on bottom, one carboy of acid is used, mixed with 20 gallons of water. The acid is mixed with the water and three pints of an inhibitor added. The amount of acid required for this operation is calculated from the amount of open hole in which the sand is exposed. One and one-half gallons of mixed acid and water is used for each foot of hole below the packer, and if 40 feet of exposed sand is in the well, there will be required about 60 gallons of liquid. It is the policy of Forest Oil Corporation to leave about two feet of the top of the sand uncovered by the acid mixture.

The acid mixture is permitted to remain in the hole for four hours under a small amount of pressure to react with the foreign substances on the face of the sand. After this time has elapsed, two barrels of water are used, in which has been dissolved 30 pounds of soda ash, and siphoned into the well through the ¾-inch pipe. Air is immediately connected to the top of the ¾-inch string and the liquid in the hole is blown out through the two-inch tubing.

Alternate washing and blowing is carried on until all indications of acid and soda ash are removed. Two quarts of silicate then are used, mixed with ¼-barrel of water, which is turned into the well through the ¾-inch pipe. Washing is again resorted to until only clean water appears as it flows from the connections on the two-inch tubing. The ¾-inch pipe is then pulled, racked, or hauled to another location. The next operation is to pour one pint of silicate mixed with ¼-barrel of water down the two-inch tubing, after which the pressure connections are placed on the tubing, together with the water meter, but water is not turned during that day, or the following night.

Next morning, the lease operator turns in the water under operating pressure—which may be from 800 pounds to 1800 pounds per square inch gauge—and the input well is again in service. A number of intake water wells on various flood properties of Forest Oil Corporation have been treated in this manner to open up the face of the sand, all which have been reported to take a much greater amount of water than before being cleaned.

To obtain water that is clean enough to use in the intake flood wells, it is necessary to treat it with lime, in one tank, and run it to another to permit enough time for the impurities to settle out. After this is done, filters are used to remove approximately all the remaining matter that might fill the pores in the face of the sand in the shot hole. Even with these precautions, the wells eventually will become so tightly bound on the sand face that cleaning is necessary.

Line water treaters used by Sloan & Zook to condition water used for flooding.

DANGERS WHEN USING AIR BOTTLES FOR CUSHIONING OR

Killing Line Vibration

ARE OVERCOME BY ADOPTING PRECAUTIONARY MEASURES

By ELTON STERRETT

CONTROL of main line vibration, basis of more operating grief than all other mechanical causes combined, demands the installation of some effective cushioning agents as near the source as possible whenever plunger pumps are used to move the fluid.

Without a shock-absorber, the liquid in the line takes up the hammer blow of each pumping stroke, and transmits it through the pipe until some change in structure, or a flaw in the metal itself, presents a focal point for concentration of the vibration. At such a spot it is but a question of time, and the magnitude of the hammer blows, until failure must occur.

Blows Transmitted Long Distances

That these hammer blows are transmitted distances almost incredible to men unfamiliar with pipe line operation may readily be demonstrated by uncovering any uncushioned main line, and through finger-tip or with ear close pressed to pipe noting the plainly evident pulsation set up by each plunger stroke.

On one line under test the speed of the pumps, and the intervals in which two or more plungers on different pumps were stroking simultaneously, could be determined at distances of 50 miles from the station as accurately as though the observer were posted within the station itself.

Another instance of this shock transmission occurred at a river crossing 66 miles from the station putting crude into a 10-inch line under an initial pressure of 650 pounds per square inch. In the course of routine maintenance work the line was uncovered at the river, and during the night the pit filled with water. When the gang turned out to resume work the following morning this pool of water surrounding the pipe registered on what should have been a perfectly mirror-like surface a recurring pattern of wavelets, concentric with the pipe and energized by the almost microscopically minute motion of the line under each plunger impulse.

Graphic proof of the stress to which an uncushioned line is subjected comes from the portion of a chart taken in a station with a recording gauge on a line which, at the time, was operating two 5½ by

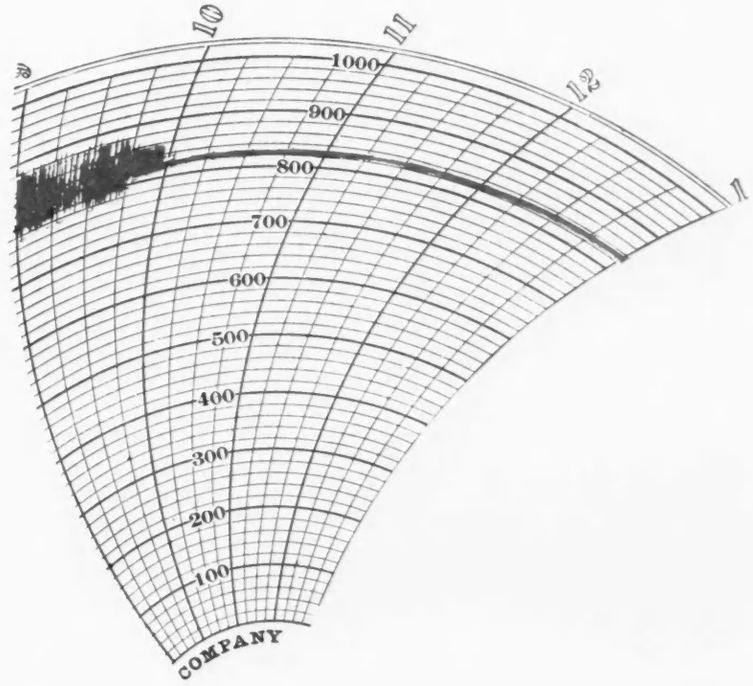


Chart showing line pulsation before and after use of air bottles. Note the unmistakeable evidence of their influence.

24-inch duplex plunger pumping units, independently driven and non-synchronized, turning up 34 revolutions per minute, and handling approximately 1000 barrels per hour at the pressure indicated.

Shortly before 9 a.m. o'clock, with the cock at the gauge pinched to throttle the throw of the recording pen and keep it from swinging off the chart, air chambers on both lines were cut off, only elasticity of the pipe itself serving to absorb the shock.

After 40 minutes of such operation, the air chamber on one line was cut in, producing a marked reduction of the swing of the pen, though no change was made in the throttling effected by the partly closed gauge cock. It is worth noting that almost all the swing of the pen occurred above the line afterwards marking actual pumping pressure; in other words, the entire effect of the plunger impulse was manifested as a pressure jump, and that there was no corresponding after-drop to show that the oil had been speeded up enough to create a partial void as the effect of the plunger impact passed.

When the two pumps had been working with cushioning present on but one of the chambers for some 15 minutes, the second chamber was put on the line and the throttling stopcock below the recording gauge opened to its normal setting. The smoothness of the curve from the instant of connecting in the second air bottle is proof of the practical effectiveness of this method of cushioning.

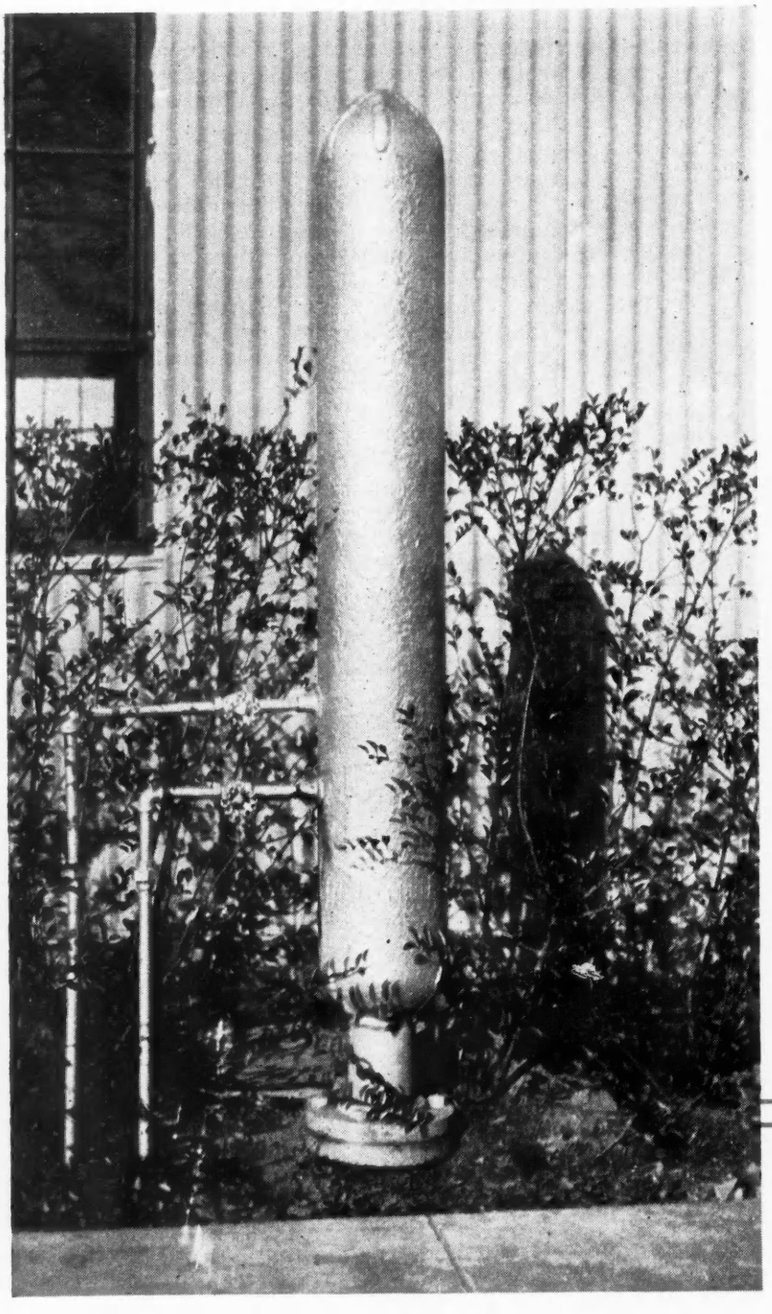
If it were possible practically to separate the air and oil surfaces in such an air chamber or bottle with an impermeable medium, such a device would be almost ideal; but, in operation, observation demonstrates that absorption of the compressed air cushion by the oil goes on at a rate more or less rapid depending upon the gravity of the oil, its temperature, and the line pressure.

So rapidly is the cushion absorbed that some companies order weekly recharging of all air bottles, while at least one major company runs a daily check to determine the air volume present in the bottles.

Danger In Repressuring Bottles

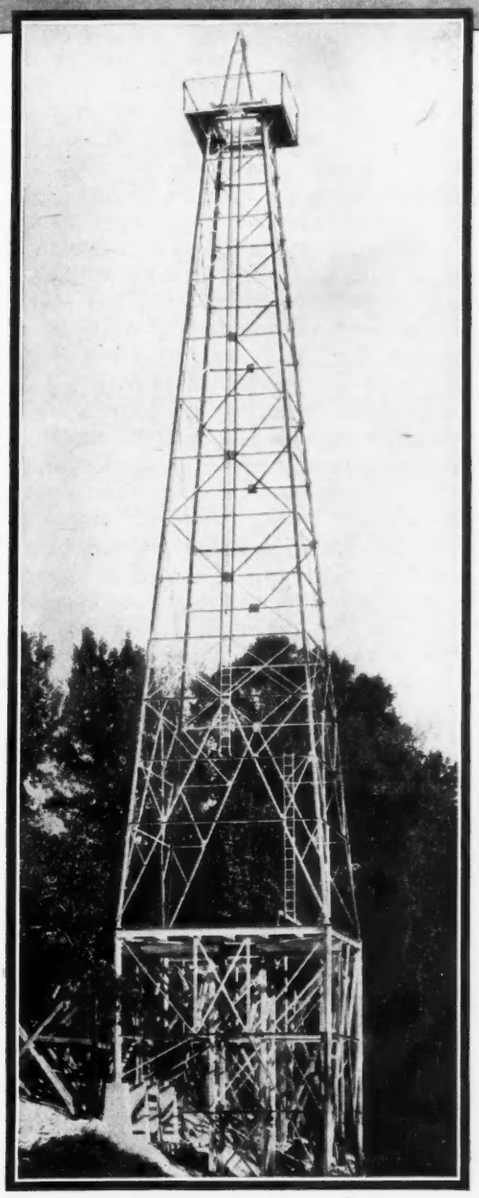
This renewal of cushioning air introduces an operating hazard that results occasionally in explosion of the air chamber, there being a number of such mishaps on record. This peculiar phenomenon—seemingly so unpredictable—is so respected generally that many operators are prone to postpone the charging routine past the day due.

An air compressor with capacity up to 250 pounds is part of the equipment in nearly every station using internal combustion units for power, and this air is available for and used for repressuring. The usual operation is to blow down the chamber to the level of the vent pipe, after having first cut off the line pressure by closing the main chamber gate, and then to charge the vented space above the remaining oil with air at the maximum pressure attainable on the compressor. This point reached, the air is cut off, and the main gate reopened. It is at the instant of admitting line pressure to the chamber that danger lies, as



Typical air chamber with charging and vent lines showing to left. Main gate is in a covered pit behind air bottle.

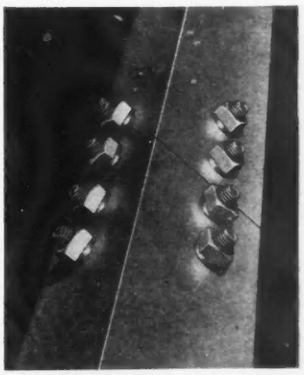
THE M.I.W. Steel Derrick



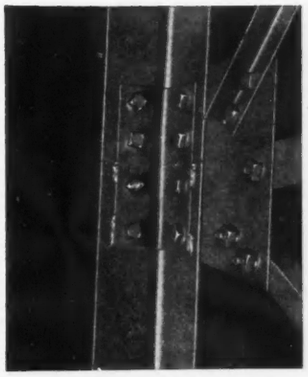
Muskogee Iron Works A.P.I. Derricks and Rig Fronts are available for immediate shipment from stock. Ask for information on Sub-Structures of all types.

Erection Facilitated by Improved Joints and 2-Bolt Connections

M. I. W. Steel Derrick Joints are milled for accurate fit. Splice plates are spot-welded to upper ends of leg members so that lower ends of leg members can be stood in place while being bolted. 2-bolt connections mean that there is always a hole for a pin to bring the member into place while a bolt is being inserted.



Joint with gusset plates removed. Bolts are galvanized, with special fin heads to prevent turning. Parkerized lock washers.



Inside view of joint with one gusset plate removed, showing how inside splice plate is spot-welded to leg.

These erection-speeding features—added to the fact that M. I. W. simplified design makes necessary fewer parts and a much smaller number of bolts—explain why M. I. W. Steel Derricks are usually erected in less than a day's time.

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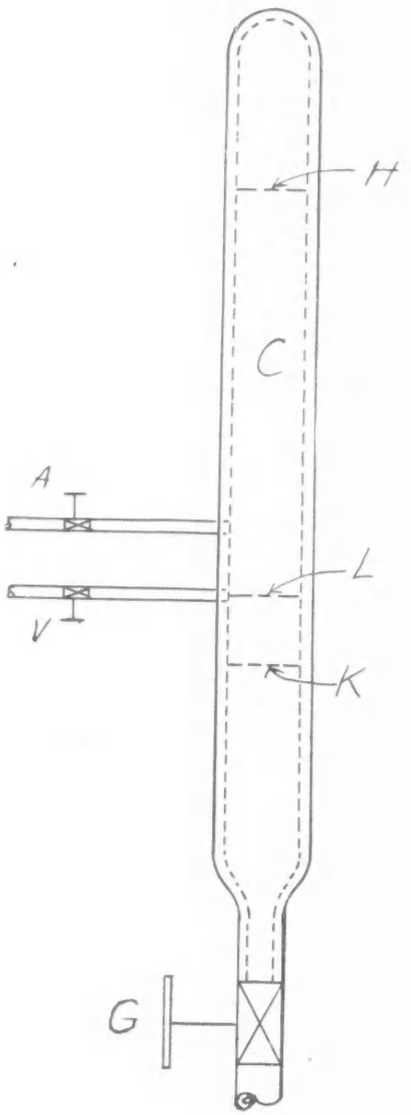
too rapid opening of the valve will compress violently the air and sometimes cause an explosion.

In the East Texas field, where operating pressures up to 1000 pounds per square inch are maintained at the pump on some lines, this compression ratio is so severe that unless extreme caution is observed in admitting oil to the chamber, trouble confidently can be expected.

By reference to the sketch of a typical air bottle, and consideration of the theory behind what really takes place within the bottle, it is readily apparent why explosions occasionally happen, and the wonder is why there have not been more disasters.

Sketch of Air Bottle

C—Air Chamber
A—Air Valve
V—Blow-down Valve
G—Main Line Gate
L—Vented Oil-Air Level
H—Charged Oil-Air Level
K—Supercharged Oil-Air Level



With the shut-off gate "G" closed, and vent line "V" open, air from the compressor admitted through valve "A" blows the oil down to the level "L." With "V' then closed, the compressor builds up the pressure within the bottle to the maximum attainable. Assuming no line loss, this may be considered as 250 pounds.

Then, closing "A" and opening gate "G," the oil-air surface at "L" is moved upward to some point "H," where the volume of air originally at 250 pounds pressure now ends when compressed to line pressure. So rapidly is this change in pressure and volume effected that the air is highly heated, and may pass easily the temeprature at which the mixture of air and vapor from the crude will ignite.

Under such conditions the rising surface of oil as the gate "G" is opened may be regarded as a simple Diesel engine piston, and ignition is obtained in the same manner in both instances. If the resulting explosion comes while the opening at "G" is still severely restricted, force of the ensuing explosion will be concentrated in the bottle, and rupture with possible fire and loss of life is sure to follow.

Should the gate have been opened enough for the oil in the chamber to move downward under the suddenly generated pressure of the explosion, the "kick" becomes nothing more serious than another and more potent pulsation sent along the line.

To determine the condition within the air chamber which brings about the explosion, it is simplest to assume that the air is under adiabatic compression, the extreme rapidity of the compression and practically instantaneous pressure increase taking place in the thick-walled air chamber before the heat of compression can be radiated away or conducted off. With this assumption, the values given in Table I show the surprisingly high temperatures attained when an air chamber charge at 250 pounds is suddenly compressed to 1000 pounds, over a range of varying atmospheric temperatures.

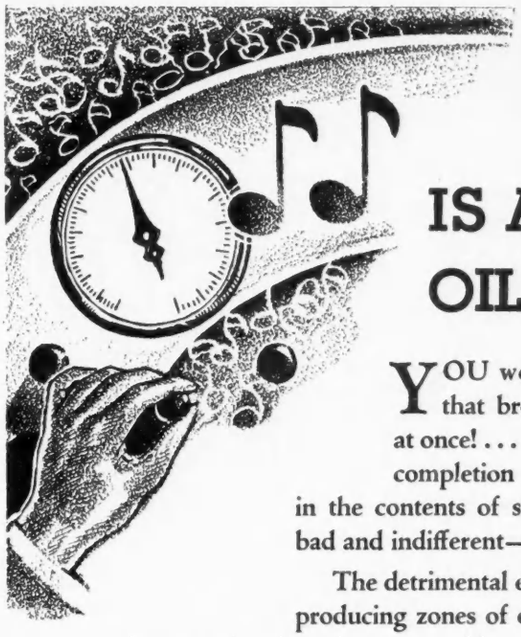
Suggested Safe Remedies

Pressures chosen for evaluation in the tables may not be those actually reached in practice, but the maximum cited is closer to an operation figure than the assumption of compressor capacity pressure at the air bottle. Should the jump be from 200 to 900 pounds, as has been observed frequently in East Texas pipe line operation, the range in temperature is even higher, and the Diesel effect thereby heightened.

As study of the phenomenon of exploding air bottles brings to light the theory explaining the trouble, so a little further consideration of this same principle of adiabatic compression of air suggests a remedy.

If the bottle be initially charged to a pressure greater than that of the oil in the line, and the air be cut off and the bottle main gate be opened, the entrapped air can not be compressed further but, on the other hand, will expand until its pressure corresponds with that of the line.

This expansion, or volume increase, produces a momentary drop in temperature of the air, completely reversing the process first considered, and working still farther toward the safe side, away from any possibility of heat-engendered ignition. Table II



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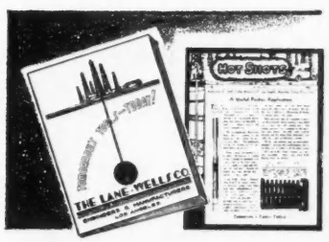
For further information concerning Gun-Perforator Service, and prices in your field, consult the Lane-Wells office nearest you.



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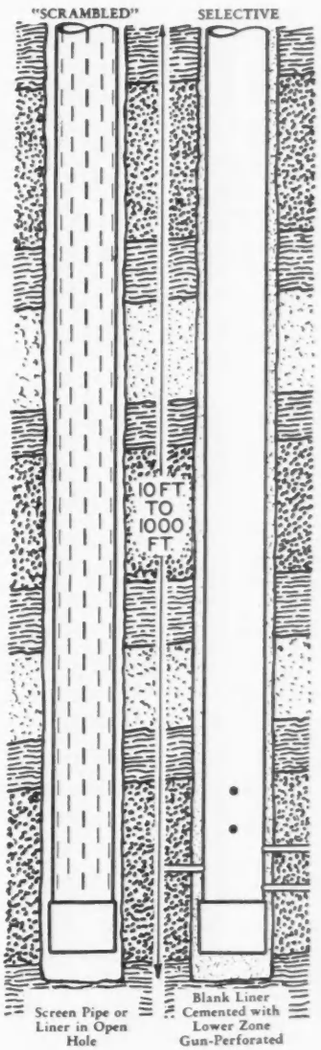
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illustrates the drop in temperature (theoretical, but closely attained momentarily in practice) with a bottle initially charged to 1200 pounds and then put on the line against the same 1000-pound figure used for Table I and at the same outside temperatures.

In stations Diesel powered, there is plenty of such high-pressure air available, and the accidental explosion of an air bottle could come about only through the admission of this highly compressed air to a chamber cut off the line and partially blown down. Where the make-up air is added while the chamber is on the line, there is no possibility of an explosion being set off, as the oil level within the bottle simply moves down under the greater pressure until the desired volume has been reached.

Apart from the gain in safeguarding operating practice realized through the use of supercharging the air bottles as against low pressure filling, the volume of air available for cushioning is from 300 to 400 percent more than can be counted on if the low-pressure compressor is used for filling the space above the vent.

Referring again to the sketch, it is apparent that the greatly increased air cushion, extending from the top to the line "K," presents no more surface to the area of oil at the top of the crude column than does the small one "H" near the upper end of the bottle. In consequence, absorption of the cushioning air will proceed no more rapidly in one case than in the other, with the advantage that using supercharging the process can continue without seriously crippling e cushioning effect for a period several times as long as could be sustained with only the relatively small volume at "H."

Many operating men instinctively fear the high pressure within the air bottle, while a little consideration should show that the pressure there is—can be—no greater than that of the line, and that air and gas mixtures at maximum pressure may frequently occur in the line; such as when a tank is sucked dry, or when insufficient suction line acapacity results in air being drawn past the packing on the suction stroke of the pump and mixed with oil in the working barrel. The danger does not lie in the ultimate pressure of the air-gas mixture, but in the rapidity at which such a pressure is reached.

For stations not having high-pressure air available, the installation of a small multi-stage compressor, having a low volume rating, will soon pay for itself in increased station safety and in the greater uniformity attained in pumping conditions where operators need have no hesitation about recharging bottles.

For such repressuring it is customary to connect the bottle to the compressor line after blowing it down to the vent pipe level; and then, starting the compressor, allow it to build up gradually to the desired maximum pressure. With a small unit and a bottle of sufficient capacity to cushion adequately an eight-inch or larger line, it is impossible to boost the pressure of the confined air rapidly enough to approach the adiabatic condition of compression necessary if the heat generated be retained by the charge long enough to induce ignition.

If the station be one already provided with a low-pressure compressor—low in terms of readings attained in main line work—it is possible to install a small two-stage unit to draw air from the tanks storing same for engine starting, in which case it is desirable to use the smallest commercial unit, as the volume required for an air bottle is slight, and recharging so far from a continuous operation that a larger unit would not be justified in view of the few minutes saved through its use.

Where, however, the low-pressure compressor may be in need of replacing, or can profitably be transferred to other use, the installation of a compressor capable of putting up maximum bottle charging pressure is an economy, as it can easily be connected to allow bleeding from the low-pressure stage for engine starting-tank charging, or may be used to pump direct and shut down when the figure desired is reached.

Not only will the life of a main line be lengthened by properly and continuously cushioning devices, but the pumps and back of them the power units will be benefitted also by the adequate suppression of the shock of plunger impact. In one station the additional cost of a high-pressure compressor was computed to have been saved in the added life obtained from pump valves and seats alone.

TABLE I
Resultant Temperatures with Low Initial Pressures

Outside Temperature Degrees F.	Initial Pressure Lbs. Per Sq. In.	Final Pressure Lbs. Per Sq. In.	Resultant Temperature Degrees F.
60	250	1000	308
90	250	1000	351
120	250	1000	397

TABLE II
Resultant Temperatures With High Initial Pressures

Outside Temperature Degrees F.	Initial Pressure Lbs. Per Sq. In.	Final Pressure Lbs. Per Sq. In.	Resultant Temperature Degrees F.
60	1200	1000	33
90	1200	1000	62
120	1200	1000	90

Low fuel costs per foot drilled, and small consumption of water are operating features on rotary rig in which low-pressure boilers, instead of delivering steam direct to the slush pumps, are piped to an additional steam engine used only for driving the mud pumps.

A Slush Pump Hookup

INSTALLATION USING SMALL, SEPARATE STEAM ENGINE PROVES AN ECONOMY

By FLOYD SWINDELL, Staff Writer

ONE of the most interesting trends of the petroleum industry during the past three or four years has been the determination on the part of its personnel to become adapted to depressed conditions, which have made economy of operation as essential to the continued existence of many operating companies and drilling contractors. This endeavor has extended in some manner to all branches of the industry and notably to the exploration and development branch, wherein a large number of wide departures have been made both in equipment and the methods of its use. One of these departures is represented by a drilling rig now owned and operated by Seth W. Herndon Drilling Company of Tulsa, Oklahoma. This rig has completed recently its third test with a fuel and water saving worthy of consideration.

Separate Slush Pump Engine

The main feature of the rig is the slush pump unit, which consists of a 7¼-inch by 14-inch, 1800-pound working pressure, cylinder stroke pump, direct connected, driven by a seven-inch by seven-inch vertical type twin steam engine rated at 225 horsepower when operating at 300 revolutions per minute. Both the slush pump and the engine are mounted on a common skid to form a unit weighing approximately 30,500 pounds, including the pulleys and nine V-type belts through which power is transmitted to the pump. This is one of the first attempts to employ a separate engine for steam slush pump operation. One of the features of the engine is a manually operated variable cut-off enabling the operator to take maximum energy from the steam through its use expansively. A 14-inch by 7¼-inch by 14-inch steam pump sitting directly behind the cylinder stroke pump acts as an auxiliary or stand-by. It is connected to the boilers in the usual steam rig manner. The six-inch unitized draw works are driven by a 12-inch by 12-inch twin drilling engine in the usual fashion.

Power requirements of the rig are such that it is necessary to use only two 100-horsepower, 150-pound working pressure boilers, considerably smaller than those generally used on the ordinary heavy-duty steam rig. Either delivers enough energy for rotation of the tools or for getting off bottom and in emergency one boiler could be depended upon to drill slowly during short periods. Since the water is good and a job may be completed without "washing down the pots" no stand-by is used.

Low Fuel Cost Per Foot

Records presented herein are from a 3288-foot test drilled with the rig for Gypsy Oil Company in the Chase area of southwestern Rice County, Kansas. The 11¼-inch hole was drilled to 3239 feet with 6⅝-inch drill pipe, penetrating a section that consisted of 44.25 percent shale and shells, 7.45 percent shale, 13.04 percent shale and limestone, 9.73 percent shale, shells and salt, 2.76 percent sand, some of which was exceedingly hard, and 19.71 percent limestone of varying hardness. Since this section is typical for that portion of the state and all rotary drilling was done with rock bits, the results obtained from the test probably are representative of the other two tests drilled with the same outfit. Total fuel time was 240 hours and drilling time 208 hours below the surface pipe, the latter including 12 hours of coring. During the 240 hours fuel time the rig used 696 barrels of 28 degree gravity fuel oil, delivered to the location for $1.10 per barrel. This is a total fuel cost of $765.60 or an average of 23.636 cents per foot of rotary hole.

No attempt has been made to gauge water consumption of the rig. However, at the lower operat-

ing pressures a proportionately larger amount of water would be used than at the higher pressures. In a series of tests conducted three years ago by the special research committee of the American Society of Mechanical Engineers in conjunction with the School of Mechanical Engineering of the University of Oklahoma, a number of interesting observations were made in regard to fuel and water consumption in the drilling of a rotary test with steam equipment. The investigation was made on a deep test in the Oklahoma City pool where four 125-horsepower saturated steam boilers were furnishing power to a 10-inch by 4½-inch by 10-inch boiler feed pump, two 14-inch by 7¼-inch by 18-inch slush pumps, a 12-inch by 12-inch twin drilling engine, a three-kilowatt turbo generator and to other normal rig requirements.

Good Water Consumption Record

During a 33-day drilling period when the hole was carried from the surface to 5570 feet with 6⅝-inch drill pipe, it was found that the daily average water to the lease was 664,000 pounds. Of this amount 421,000 pounds went to the boilers, which were operating at an average of 225.6 pounds gauge pressure. A loss of 51,606 pounds of water was sustained in the boiler blow-down and 369,394 pounds of water was evaporated by the boilers. Of the latter amount 80,776 pounds of water went in the form of steam to the drilling engine, 243,450 pounds to the slush pump, 29,400 pounds to the boiler feed pump, 3784 pounds to the turbo generator, 4210 pounds in leakage, to the wash tub, etc., 7550 pounds to the mud jet and 224 pounds to the cleaning of the floor, bits, etc. Thus it is seen on a rig of this type 65.9 percent of the water evaporated by the boilers went to the slush pump while only 21.8 percent went to the drilling engine. Designers of the Herndon rig have, therefore, taken advantage of the fact that the greatest field for steam economy is in connection with the circulation of mud through the hole.

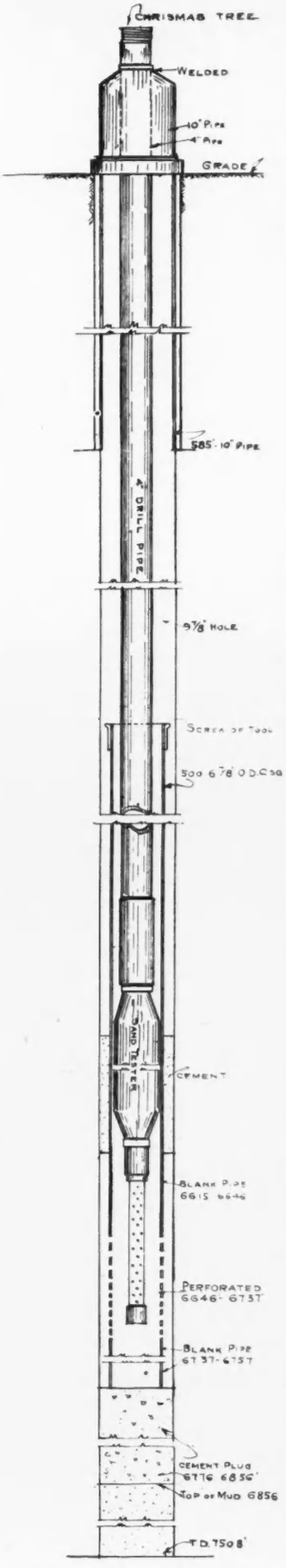
The outfit can be rigged up and drilling in 48 hours and can be torn down in 16 hours, using two shifts. Its economy of fuel and evident economy of water are of interest to the industry.

Herndon Drilling Company's slush pump hook-up. Steam from low pressure boilers is directed to the vertical engine, which drives the slush pumps through V-belts.

Unusual Casing Practice

PROVES SUCCESSFUL IN PERMITTING FORMATION TEST IN DEEP WELL

By EARL S. POST, Staff Writer



Drawing of complete set-up in Deering and Kayser's Engleman 1. This wildcat was successfully completed through use of a bottom-hole string and casing, with the drill pipe in the hole.

AN unusual casing practice for deep well formation testing has been devised and successfully employed by G & S Drilling Company. In fact, the pipe set up enabled the company to complete a wildcat well in Hidalgo County as a producer, thus establishing a new South Texas field.

The plan varies from the usual method in that a short string of casing is set at the bottom of the hole opposite the formation to be tested, leaving possibly several thousand feet of uncased hole between the bottom casing and the surface string. The entire plan is pictured in the accompanying drawing.

G & S Drilling Company was confronted with working over an old abandoned hole, bottomed at 7508 feet and testing sands above that level indicated by an electrical formation survey. To wash down the hole and rework it likely would bring about complications, so it became necessary to protect the possible producing horizon. Charles Lane, in charge of drilling operations for the company, worked out this testing plan.

Used Unusual Casing Plan

G & S Drilling Company moved in its rig and commenced the work-over project. The hole first was washed down 6856 feet, or 652 feet from bottom. A string of four-inch drill pipe was then run into the hole for the purpose of cementing the next 80 feet of hole. The cementing tool constituted nothing more than a bull plug screwed into the bottom of the drill pipe. A hole in the bottom of the plug enabled the pumping of cement. The completion of this job gave the hole a depth of 6776 feet.

The next step was to set a 500-foot string of seven-inch O.D. casing on bottom. The bottom 20 feet of casing was blank, above which was a 90-foot section of perforated pipe, the holes being ¼-inch in diameter. The next 30 feet was blank pipe. Atop this section was the set up for a full-hole cementing job, including a baffle collar or nipple and a canvas basket and spring assembly. This complete unit was used to assure no slip-up in the cementing, which would allow the cement to clog the 90-foot perforated section. Above this assembly was 359 feet of blank pipe, most of which was cemented.

The pipe was set by running it into the hole on the bottom of the drill stem. When set, the drill stem was loosened by rotating off the screw off setting tool on top of the casing. This is an unusual practice in setting liners.

The electrical formation survey had indicated 12-foot and a 20-foot sand sections between 6700 and 6750 feet. In setting the pipe, however, it was decided to leave a larger perforated space, the section being between 6686 and 6776 feet. This was done on the theory that an error of one percent in measurements would cause a displacement of 67 feet at the perforated point, possibly completely cutting off the sand section intended to be tested.

Cementing brought considerable figuring on displacement, the idea being to get the cement exactly in place. Tanks of fluid to replace the cement in the drill stem

were provided. As soon as 100 sacks of cement, cooled with two tons of ice, were pumped into the hole, the fluid followed. Arrangements were made to leave a certain amount of cement in the pipe, which was successfully done.

There was nothing unusual about the drill stem test which followed. After the cement plugs had been drilled and the hole cleared, a regular full-hole testing tool, choked bottom and top was run into the hole. While the test was being made, however, an accident occurred and the packer on the tool stuck at 6629 in the casing. The well then got out of control and ran wild for a few hours before finally being closed in.

Weld Drill Stem to Casing

The action of the well caused owners to decide to complete it with the drill string in the hole. The drill stem was welded to the top of a 585-foot string of 10-inch surface casing to prevent any possible leaks. The Christmas tree hook-up was fastened to the top of the drill pipe.

This well was completed for a large gasser, spraying from 30 to 50 barrels of very high gravity oil per day through ⅛-inch choke. It developed and has maintained a pressure of 2150 pounds.

To Experiment Further

Further experimenting was prevented by the forced completion through the drill pipe, but it is expected that future tests will be made in a similar manner. The bottom-hole project proved a success, as is indicated by the successful completion.

It is believed that much shorter strings of casing can be set to make future tests. Most careful measurements will enable the spotting of perforations at the exact point desired. This would mean strings of casing ranging from 100 to 150 feet in length could be used to test the usual sands logged. In the event the sand failed to produce, other sands indicated higher in the hole could be tested in the same manner.

When a producing horizon is established, a full string of casing, same size as used in the bottom of the hole, is to be set. This is done by installing a lead collar, or seat, on the base of the long string of casing. When the pipe is landed on the short string, the lead seat provides a seal between the two joints, thus creating a full producing string. Further cementing is unnecessary, although it can be cemented higher in the hole with a full hole cementer.

Future tests through setting of bottom-hole strings will be done with tubing. The regular casing will be set on bottom as previously described. A string of tubing then will be run into the hole and set inside the casing with a packer. With this set-up, it will be possible to actually complete the well, instead of making only a drill stem test. Swabbing can be done through the tubing to bring about production.

The tubing method of testing will possibly prove of great value in testing in low-pressure areas, where much swabbing must be done to cause the wells to kick in. There are many spots where only a joint of oil on a drill stem test of 15 to 20 minutes duration will provide a producing well. After being swabbed for some time, it will kick in and actually flow.

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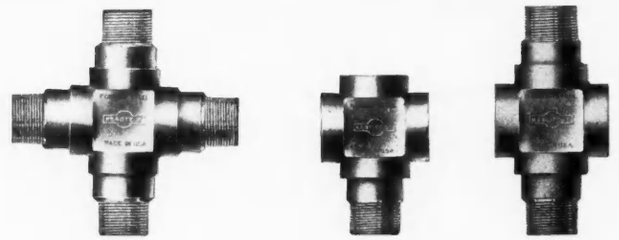

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Today's starting, shifting and accelerating waste your money unless your gasoline has these 3 Kinds of Power

YOU often start up from a full stop over 30 times a day. And a single zooming getaway, engineers and car manufacturers will tell you, can use 33% more gasoline than normal driving.

Besides, every time you start up, your engine is moving over a TON of weight. And so you need a gasoline with power for HARD PULLING.

But one kind of power alone can't save you money in today's stop-and-go driving. You also need power for INSTANT STARTS.

And your gasoline must be economical in STEADY RUNNING as well!

It's hard to put these 3 kinds of power into a gasoline, but it's an even bigger engineering job to have them in the right proportion . . . in perfect BALANCE. But that is the feat Shell engineers accomplished in creating Super-Shell—the FIRST truly balanced gasoline . . . the gasoline that saves you money in 3 WAYS!

Fill your tank with Super-Shell at one of Shell's 30,000 neighborly service stations from Coast to Coast. Start today to cut your driving costs.

SAVES IN 3 WAYS—

STARTING—This balanced Super-Shell can save up to a cupful of gasoline on every "cold" start. Even on sizzling summer days, your engine is relatively "cold" after it has stopped running.

PULLING—It can save up to a cupful in 10 minutes of rapid accelerating or hill climbing. And you also avoid *knocking.*

RUNNING—Super-Shell can save up to a cupful of gasoline, motorists report, in an hour on the long stretch—thus saving you money on long runs as well as on short trips.

Remember, when you save 16 cupfuls, you save a gallon!

Listen to Shell Chateau, starring AL JOLSON—the most popular oil program on the air.

Super-SHELL

Saves on today's stop-and-go driving

Markets Off Some

VARIOUS SECTORS HAVE CUTS: PRICES GENERALLY UNCHANGED

PRICES were mostly unchanged last week with exception of some further weakening of retail prices in various sections of the country. But the markets generally appeared to have lost ground, due to several factors, and the outlook became less promising.

An outstanding unfavorable circumstance was the unsuccessful outcome of the efforts in California to inaugurate a voluntary proration plan, although the independent producers thereupon started work on a new plan. Meanwhile, there was further weakening of retail gasoline prices in California. And anxiety grew in the rest of the country, over the long duration of the West Coast situation.

The close of the peak gasoline consuming season also has represented a strain on the oil markets, bringing reductions in retail gasoline prices in the East, Middle West, and Texas, as well as contributing to the difficulties in California.

Cities in which gasoline price cuts have occurred within the past 10 days include Chicago, Detroit, and Buffalo; while some time previously, reductions had been made in Maine and Massachusetts. Last week retail prices sagged further within Texas. However, the Texas market is particularly susceptible to the depressing effects of hot oil shipments out of East Texas, which have been at comparatively high levels as regards intrastate movement.

The Chicago tank car market has eased fractionally, as gasoline has accumulated at track sidings, looking for buyers. In the latter part of the past week it was reported that some third grade gasoline was being sold at 4½ cents a gallon, although the market was generally quoted at 4⅝ to 4¾ cents, off ⅛ cent from a week previously. The middle grade also was off one-eighth cent at 5⅜ to 5⅝ cents per gallon.

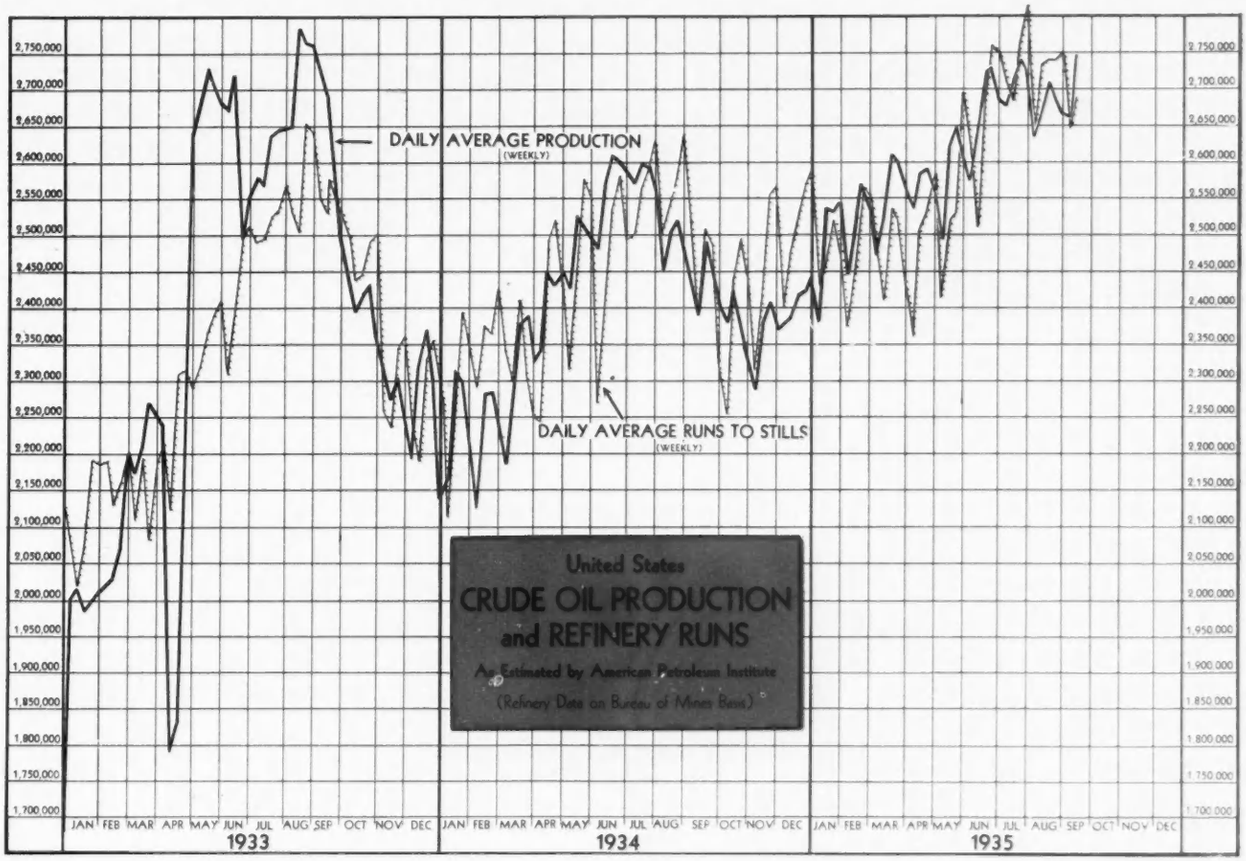
Those inclined to be optimistic about the market pointed out that despite the slight sagging of prices, the quotations still were a full cent above those prevailing a year ago. It was asserted that the tank car market has remained remarkably strong, considering the usual seasonal decline in gasoline consumption, not to mention the unsatisfactory conditions in California.

CALIFORNIA SAME

Markets in state have no marked change

DURING the past week there were no marked changes in the market in California, although in a few instances in Southern California certain small refiners again shaved their tank wagon price on gasoline about half a cent. The truck and trailer price ranges from 7⅞ cent to 8.5 cents in the Los Angeles area, while major companies are holding to 8.5 to 9.5 cents tank wagon on third grade. One hundred per cent dealers are allowed an additional one cent margin, thus explaining the 9.5 cent price. Smaller refiners are having trouble in buying crude in sufficient quantities, in spite of their offers of 10 to 20 cent premium for light gravity crude. There is plenty of natural gasoline in storage, but it is tightly held.

It is practically certain there will be no further changes one way or the other until about October 1. If pro-



ducers succeed in their effort to reduce daily production in California to a point even close to 530,000 barrels a day, selling prices of practically all products will be much stronger. If the producers fail to reduce production, there is a real danger of a stiff reduction in crude posted prices, probably to as low as 25 cents for some grades.

There is no important change in tank car prices, and there are no export prices, since no sales have been made on spot shipments upon which to base a real quotation.

NEW LINE COMPANY

Three companies join in Kansas project

Tulsa.—Announcement was made early in the week of the organization of Kaw Pipe Line Company, a Delaware corporation with headquarters in Tulsa. The primary function of the organization will be the ownership and operation of a pipe line to be constructed from the Hollow area of northwestern Harvey County, Kansas, to the Gorham area of western Russell County, by The Texas Company, Empire Oil & Refining Company and Phillips Petroleum Company. Officers of the new company are as follows: B. E. Hull, The Texas Pipe Line Company, president; J. K. McGoldrick, The Texas Pipe Line Company, vice president and general manager; F. K. Haskell, Empire Oil & Refining Company, vice president; E. F. Guidinger, Phillips Petroleum Company, vice president; H. L. Stewart, secretary and treasurer; and B. A. McKerren, C. E. Murray and F. L. Feist, assistant secretaries. The board of directors will include Hull, McGoldrick, and J. W. Stewart as representatives of The Texas Company; Guidinger, J. R. Harris and E. V. Kile, representing Phillips Petroleum Company; and A. W. Ambrose, F. K. Haskell and C. S. Warren, Empire Oil & Refining Company.

The White Eagle division of Socony-Vacuum Corporation will build and operate a line from Valley Center in Sedgwick County to the Hollow area where it will tie in with the line of Kaw Pipe Line Company. The two new lines will act as a unit in carrying oil from pools of Russell County to Valley Center but each will maintain its separate identity.

East Texas Tank Car Shipments

Week Ending September 15, 1935

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	561	4,556,698
Casinghead Gasoline	206	1,787,716
Fuel Oil	229	2,247,426
Distillate	95	770,102
Kerosene	30	241,839
Crude Oil	24	216,523
Gas Oil	24	194,538
Naphtha	4	32,477
Residuum	21	171,831
Topped Crude	12	105,176
Total	1,206	10,324,326
Total Previous Week	1,076	9,062,077
Interstate	546	.....
Coastwise	346	.....
Intrastate	314	.....
Total	1,206	.....

TANK CAR SHIPMENTS

East Texas movement back to normal figure

Kilgore, Texas.—Tank car shipments of petroleum and products from the East Texas district recovered to more normal proportions during the week ending September 15. For the week total shipments aggregated 1206 tank cars, compared with 1076 the previous week, and with 1263 cars the week before that.

The destinations of the shipments the latest week were about normal, also, 546 of the cars going interstate, 346 coastwise, and 314 intrastate. Similarly, there was a normal classification of the products, the total of 1206 cars including 561 cars of gasoline, 206 cars of casinghead gasoline, and 229 cars of fuel oil, as the bulk of the shipments; while the remainder consisted of distillate, kerosene, crude oil, gas oil, naphtha, residuum, and topped crude.

TEXAS TAX BILLS

Austin.—Two bills seeking to increase the gross production tax on crude oil were introduced in the Texas House last week.

A bill introduced by Representative Roach of Hunt County would fix a tax of six cents per barrel. The bill bore the signatures of six other House members.

Representative Hunt of Como introduced an old age pension bill which carried with it a gross production tax of five cents per barrel on crude oil. This measure would not repeal the current tax of two cents, and apparently is intended to increase the total tax to seven cents per barrel.

GASOLINE PLANT

Dallas, Texas.—Lone Star Gas Company is reported planning construction of a $250,000 high-pressure, 20,000-gallon daily, gasoline absorption plant near Trinidad, to operate on gas run through the 110-mile 20-inch natural gas line now being built by the company from Long Lake field, via Cayuga field, to Dallas.

New York. — Socony-Vacuum Oil Company, Incorporated, on November 12 will redeem, at 101 and accrued interest, the $50,000,000 outstanding 4½ percent debentures, due December 15, 1951. To meet the redemption of the bonds, the company has issued new 15-year 3½ percent debentures, of the amount of $50,000,000, due October 15, 1950.

Summary of Wells Completed in the United States

Week Ending September 14, 1935

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1935	Total Completions this date 1934
Alabama	...	...	...	...	.....	4	3
Arkansas	3	1	...	2	120	97	57
California	15	12	1	2	10,835	602	274
Colorado	...	...	...	...	.....	8	14
Illinois	...	...	...	...	.....	9	14
Indiana	16	1	3	12	30	153	110
Kansas	16	11	...	5	19,574	973	660
Kentucky	18	14	2	2	527	129	117
Louisiana	12	4	4	4	2,205	530	542
Michigan	18	9	1	8	19,615	375	346
Mississippi	2	...	...	2	.....	16	26
Montana	3	3	...	...	235	115	134
New Mexico	5	5	...	...	5,215	198	79
New York	...	...	...	...	.....	...	4
Ohio	44	10	17	17	214	1,043	685
Oklahoma	55	36	13	16	32,302	1,680	1,341
Pennsylvania	4	3	1	...	7	90	219
Texas	195	146	3	46	303,766	8,518	6,956
Utah	...	...	...	...	.....	...	3
West Virginia	...	...	...	...	.....	332	248
Wyoming	4	2	1	1	25	53	35
Total this week	410	257	36	117	394,670	14,927	11,957
Total last week	364	238	36	90	314,780	...	...
Total this year	14,927	9,849	1,271	3,807	29,706,925	...	...

Comparison of Permits Granted for New Wells

STATE	Week Ending Sept. 14	Total this Mo.	Total this Year	Total this Date Last Year	1934 Year Total
Arkansas	4	6	40	54	100
California	14	32	667	386	629
Louisiana	11	20	594	605	799
Kansas	22	38	771	682	1,015
Michigan	21	37	452	340	460
Oklahoma	54	85	1,574	1,430	2,045
Texas	191	421	7,739	7,426	10,550
Total	317	639	13,337	10,923	15,598

PRODUCTION UP

Several states register small upward trend

CRUDE oil production in the United States for the week ending September 21 was very little changed from the previous week, being only 8275 barrels per day higher. The slight decline in Texas was overcome by the small increase in California, while Oklahoma, Kansas and the Eastern States showed some increase. The daily average production was 2,760,200 barrels for the week, as compared with an indicated daily market demand for September of 2,613,000 barrels, as estimated by the Bureau of Mines.

In Oklahoma and Kansas production showed a slight increase over the previous week, Oklahoma recording an average of 494,825 barrels per day, and Kansas an average of 150,500 barrels per day. Both these states are still recovering their allowable quotas, following the normal trend in that section, and both remain under their indicated market demand estimates compiled by the Bureau of Mines.

As the month advances, production in Texas followed the usual course in declining slightly. The daily average for the week just passed was 1,034,600 barrels, as compared with the daily average of 1,038,200 barrels for the previous week, a drop of 3600 barrels. The South Texas area was largely responsible for the decline. This makes the actual production around 25,300 barrels short of the indicated market demand. The estimate of hot oil production in East Texas, not included in the above figures, declined to around 47,000 barrels per day.

Production in California continued to rise as the efforts to obtain a voluntary proration agreement were abandoned, and a new Emergency Advisory Board of Independent Oil Producers was organized. The daily average production of 638,000 barrels was only 3500 barrels over that of the previous week, mostly due to gain in Mountain View area, and the new board expressed hopes of having production reduced to 600,000 barrels daily by September 20, which would still exceed the indicated daily market demand figure, estimated for September at 499,700 barrels, by a considerable amount.

Louisiana recorded an increase of 1650 barrels to bring the total to 148,350 barrels daily for the week just passed. North Louisiana did not produce quite as much as in the previous week, but the Gulf Coast area showed a more material gain. This brings the total for the state to around 22,000 barrels per day over the September daily market demand figure as estimated by the Bureau of Mines.

The Rocky Mountain States declined under the somewhat lower production in Montana, while New Mexico, Arkansas and Michigan remained about the same. In the Eastern States, Southeastern Ohio and West Virginia showed noticeable increases to boost the total to 105,000 barrels daily for the week just passed.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	BARRELS DAILY FOR WEEK ENDING September 21	September 14
TEXAS—		
Texas Panhandle	53,000	54,000
North Texas	59,600	59,900
West Central Texas	26,100	26,000
West Texas	154,900	154,100
East Central Texas	47,500	47,900
*East Texas Field	443,600	442,200
South Texas	59,800	63,300
Texas Gulf Coast	190,100	190,800
*Total Texas	1,034,600	1,038,600
OKLAHOMA—		
Oklahoma City	135,975	140,600
Seminole Area	130,650	126,075
Tatums	4,750	4,750
Lucien	9,500	10,100
Fitts	20,375	18,025
Edmond	6,050	6,325
Others	187,525	187,450
Total Oklahoma	494,825	493,325
KANSAS—		
Ritz-Canton	7,800	7,275
Voshell	4,325	4,550
Nikkel-Hollow	6,325	5,875
Sedgwick	7,450	7,375
Burrton-Haury	17,825	17,225
Lorraine	6,575	6,425
Others	100,200	98,675
Total Kansas	150,500	147,400
LOUISIANA—		
North Louisiana	25,750	26,000
Louisiana Gulf Coast	122,600	120,700
Total Louisiana	148,350	146,700
ARKANSAS	30,525	30,400
CALIFORNIA—		
Long Beach	75,000	77,500
Santa Fe Springs	54,000	54,000
Huntington Beach	41,500	43,000
Dominguez	23,000	22,000
Inglewood	15,000	15,000
Ventura Avenue	34,000	34,000
Seal Beach	6,000	6,500
Midway-Sunset	57,000	56,000
Elwood	12,500	12,500
Kettleman Hills	88,000	86,000
Mountain View	45,000	39,000
Playa del Rey	17,500	17,000
Others	169,500	172,000
Total California	638,000	634,500
MOUNTAIN STATES—		
Wyoming	37,000	37,400
Montana	13,500	14,500
Colorado	4,400	4,400
Total Rocky Mountain States	54,900	56,300
NEW MEXICO	57,000	57,100
EASTERN STATES	105,000	101,500
MICHIGAN	46,500	46,500
*Total United States	2,760,200	2,751,925
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	47,000	53,000
Grand Total, including surreptitious production	2,807,200	2,804,925

Crude Runs to Stills; Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks, and Cracked Gasoline Production, Week Ended September 14, 1935

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(a) Stocks of Unfinished Gasoline	(b) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term. in Trans. & Pipe Lines	Total at Refys. Term. etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	612	612	100.0	451	73.7	4,713	8,465	13,178	849	265	13,364	534	534	100.0	107
Appalachian	154	146	94.8	101	69.2	1,112	851	1,963	242	110	872	79	78	98.7	25
Ind., Ill., Ky.	442	424	95.9	365	86.1	4,467	3,430	7,897	648	45	4,892	349	348	99.7	117
Okla., Kans., Mo.	453	384	84.8	266	69.3	2,445	1,724	4,169	513	735	4,863	256	228	89.1	69
Inland Texas	330	160	48.5	99	61.9	988	58	1,046	182	1,770	1,709	148	105	70.9	26
Texas Gulf	617	595	96.4	561	94.3	4,783	228	5,011	1,654	205	12,306	399	393	98.5	106
Louisiana Gulf	169	163	96.4	123	75.5	537	364	901	284	.....	4,398	77	74	96.1	21
North La.,—Ark.	80	72	90.0	42	58.3	185	73	258	50	155	455	46	44	95.7	8
Rocky Mountain	97	60	61.9	41	68.3	519	.....	519	92	80	765	46	39	84.8	13
California	852	789	92.6	467	59.2	5,918	2,056	7,974	966	2,460	64,521	280	280	100.0	59
TOTALS WEEK: September 14, 1935	3,806	3,405	89.5	2,516	73.9	25,667	17,249	42,916	5,480	5,825	108,145	2,214	2,123	95.9	551
September 7, 1935	3,806	3,405	89.5	2,472	72.6	25,924	18,241	44,165	5,487	5,875	108,081	2,214	2,123	95.9	557

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week Ended Sept. 14, 1935 compared with Sept. 1934 Bureau figures.

Estimate B. of M. Basis, September 14, 1935	2,690		585
Estimate B. of M. Basis, September 7, 1935	2,645		590
U. S. B. of M., September, 1934: Daily Average Crude Runs	2,446	U. S. B. of M., September, 1934: Daily Average Cracked Prod.	516

(a) Amount of Unfinished Gasoline contained in Naphtha Distillates.
(b) Estimated. Includes Unblended Natural Gasoline at refineries and plants; also Blended Motor Fuel at plants.

ASSOCIATION MEET

Tulsa. — The annual membership meeting of the Mid-Continent Oil and Gas Association, Kansas and Oklahoma division, will be held here on Tuesday, October 8, in the association conference room in the Tulsa Building. Immediately after the general session the executive committee will hold its annual meeting at which time officers for the ensuing year will be selected. Call for the meeting was made by E. R. Filley, president of the division and manager of the Oklahoma-Kansas-Kentucky division of The Texas Company.

BUY JONES HOLDINGS

Fort Worth.—Consideration of $150,000 was paid by Bridwell Oil Company, Wichita Falls, for two-thirds interest held by R. B. Farris, Fort Worth, Ungren and Frazier, Abilene, and others in the northeastern Jones County wildcat producer and approximately 900 acres of surrounding leases. Leland Fikes, Corsicana, and associates own the remaining interest in the property, which centers upon the J. W. Jennings land about three miles northwest of Lueders.

The discovery well was completed in July from sand at 2041 feet flowing 1025 barrels of high gravity oil daily. It is reported to be showing 10 percent basic sediment and water in making its allowable of 260 barrels daily. Jennings 2, a south offset to the discovery well, was drilling near the 1800-foot level late last week.

RODESSA PLANTS

Shreveport.—Two refineries adjacent to Shreveport are having construction work done at present. Shoreline Oil & Gas Company's refinery at Lewis, Caddo Parish, is adding a new canning unit and replacing equipment in an expansion program to cost $50,000.

Rodessa Oil & Refining Company (Martin J. Grogan and associates) who recently leased the Crystal Oil & Refining Company's refinery at Cedar Grove, a Shreveport suburb, are installing a skimming unit, the first part of a program that is expected to give the refinery a 5000-barrel daily capacity within 90 days.

Fort Worth. — The reorganization hearing for Cosden Oil Company was continued for two months when the matter came before Federal District Judge James C. Wilson here September 19.

FEW PITS DESTROYED

Although 60 confiscated majority still in use

Kilgore, Texas.—Although about 60 earthen storage pits of oil have been confiscated under the Texas hot oil confiscation law, it is reported that only approximately one-half dozen have been emptied while only two have been destroyed, in accordance with provisions of the law. Total confiscations have aggregated approximately 2,850,000 barrels of products and crude. That total has included about 850,000 barrels of crude oil and 1,800,000 barrels of fuel oil; the remainder including gasoline, kerosene, distillate, and gas oil. On the confiscations and subsequent sales at auction the state has received an average of about 20 cents a barrel. Lately there has been considerable activity in East Texas in construction of steel storage tanks presumably for the purpose of filling the tanks and having the state confiscate the oil, which would then be bought back for nominal cost and marketed within the state as legal oil eligible for state tenders.

Last week there was a slight increase in the number of refineries operating in East Texas. On September 18, there were 24 plants in operation, compared with 22 a week previously. Meanwhile, on September 18, there were 49 plants closed down.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to September 20, 1935)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.08	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Ector, Pecos, W'kler	*.75			9-29-33
Crane, Upton, Howard and Glasscock	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Anahuac-Dickinson	30— .94	2¢	40— 1.14	8-20-35
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-25-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and S. W. Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	*.80			6-29-35
Saxet	*.80			6-29-35
Mirando	*.75			6-29-35
Pettus	*1.05			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Port Lavaca	*.97			
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	3-17-34
El Dorado East Field and Smackover	*.70			9-29-33

DISTRICT	Low Grav.	Dif.	High Grav.	Date
North Louisiana	29— .79	2¢	40— 1.08	9-29-33
Urania	*.85-*.87			1- 1-34
South Louisiana	Below			
Lockport	20— .80	2¢	34— 1.10	9-29-33
Iowa, Cameron Mds.	Below 20— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33
Elk Basin	*1.17			9-29-33
Grass Creek (Light)	*1.17			9-29-33
Big Muddy	*1.01			9-29-33
Rock Creek	*1.02			9-29-33
Sunburst	*1.20			7-19-35
Lance Creek	*1.02			8-25-33
Osage	*.62			8-25-33
Cat Creek	*1.07			8-25-33
Cut Bank	*1.45			9-29-33
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.15			2- 1-35
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.13			5-22-35
Pennsylvania				
Bradford	*1.95			7-16-35
Sw. Pa. Pipe Line	*1.67			7-16-35
Eureka Pipe Line	*1.62			7-16-35
Buckeye Pipe Line	*1.52			7-16-35
Corning Grade	*1.32			10- 2-33
Michigan				
Central Michigan	*1.20			9-30-33
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.
† GulfCoast prices as posted by Humble Oil & Refining Company.

* All gravities—flat rate.

* All gravities—flat rate.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
March 5, 1933	.....	.....	Cut 24
May 2, 1933	.....	Cut 19	.....
May 9, 1933	Cut 20	.....	.....
May 22, 1933	Up 10	.....	.....
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Revised

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of grass value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and 3/8 of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

CALIFORNIA

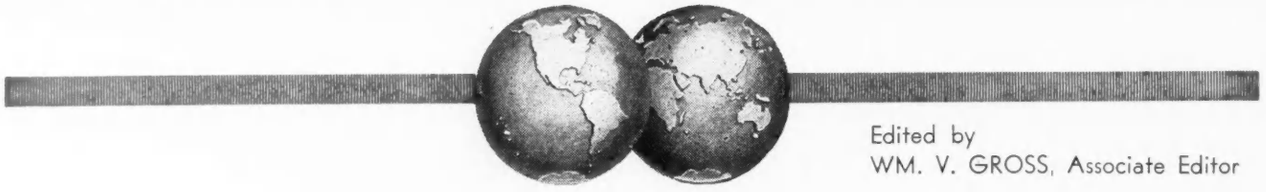
(All gravities above those quoted take lowest price offered in that field)
Effective August 29, 1935

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey[1]	Olinda-Brea Canyon	Athens Rosecrans Domingues	Elwood Terrace[2]	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Mountain View	Midway Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	....	....	$.65	$.65	$.65	$.65	$.65	....	$.57	$.57	$.57	$.57	$.57	$.57
15-15.9	.65	.65	.63	.63	.61	.63	....	....	.63	.63	.63	.63	.63	....	.57	.57	.57	.57	.5	.57
16-16.9	.63	.63	.61	.61	.58	.61	....	....	.61	.61	.61	.61	.61	....	.57	.57	.57	.57	.57	.57
17-17.9	.61	.61	.59	.59	.55	.59	....	....	.59	.59	.59	.59	.60	....	.57	.57	.57	.57	.57	.57
18-18.9	.60	.60	.57	.57	.52	.57	....	....	.58	.57	.57	.58	.59	....	.57	.57	.57	.57	.57	.57
19-19.9	.58	.58	.55	.56	.49	.56	....	....	.57	.56	.55	.57	.58	....	.57	.57	.57	.57	.56	.56
20-20.9	.57	.57	.53	.55	.46	.55	....	....	.56	.55	.54	.56	.57	....	....	.57	.57	.57	.55	.55
21-21.9	.56	.56	.52	.54	.43	.54	....	....	.55	.54	.53	.55	.56	$.57	....	.56	.56	.56	.54	.54
22-22.9	.55	.55	.51	.53	.40	.53	....	....	.54	.53	.52	.54	.55	.56	....	.56	.56	.56	.53	.53
23-23.9	.54	.54	.50	.52	.39	.52	$.55	....	.53	.52	.51	.53	.54	.55	....	.55	.55	.55	.52	.52
24-24.9	.53	.53	.49	.51	.38	.51	.54	....	.52	.51	.50	.52	.53	.54	....	.54	.55	.54	.51	.51
25-25.9	.52	.52	.48	.50	.37	.50	.53	....	.51	.50	....	.51	.52	.54	....	.53	.54	.54	.50	.50
26-26.9	.51	.51	.47	.49	.36	.49	.52	....	.50	.49	....	.50	.51	.53	....	.52	.53	.53	..	....
27-27.9	.50	.50	.46	.48	...	.48	.51	....	...	.48	....	....	.50	.52	....	.51	.52	.53	..	....
28-28.9	.49	.49	.45	.47	...	.47	.50	....	...	.47	....	....	.49	.51	....	.50	.51	.52	..	....
29-29.9	.48	.48	.44	.46	...	....	.48	....	...	.46	....	....	.48	.50	....	.49	.50	.51	..	....
30-30.9	.47	.47	.43	.45	...	....	.46	....	...				.47	.49	....	.48	.49	.50	..	....
31-31.9	.46	....	...	.44	...	....	.45	....	...	Kettleman Hills			.46	.48	....	.47	.48	..	..	....
32-32.9	..	....	...	.43	...	....	.44	....	...				.45	.47	....	.46	.47	..	..	....
33-33.9	...	....	...	...	...	....	....	$.50	...		$.62		.44	.46	....	.45	.46	..	..	....
34-34.9	...	....	...	...	...	....	....	.49	...		.61		.43	.45	....	....	....	..	..	....
35-35.9	...	....	...	...	...	....	....	.48	...		.60			.44	....	....	....	..	..	....
36-36.9	...	....	...	...	...	....	....	.47	...		.59		...	.43	....	....	....	..	..	....
37-37.9	...	....	...	...	...	....	....	.46	...		.58		...	.42	....	....	....	..	..	....
38-38.9	...	....	...	...	...	....	....	....	...		.57		...	.41	....	....	....	..	..	....
39-39.9	...	....	...	...	...	....	....	....	...		.56		...	....	....	....	....	..	..	....

[1] Subject to Field Gathering Charge of 5 cents per barrel.

[2] F.O.B. Ship.

WORLD DEVELOPMENTS and TECHNOLOGY



Edited by
WM. V. GROSS, Associate Editor

Canada Yield Down

PRODUCTION BELOW LEVEL OF LAST YEAR

CRUDE petroleum production in Canada during June amounted to 120,119 barrels as compared with 123,801 barrels in May and 110,115 barrels in June, 1934, according to a report just issued by the Dominion Bureau of Statistics at Ottawa. Production during the six months ending June totalled 714,341 barrels or 0.4 percent below the output in the corresponding period of 1934.

The June production in Alberta consisted of 100,331 barrels of crude naphtha and 1553 barrels of light crude oil from the Turner Valley, 1716 barrels of light crude oil from the Red Coulee field and 1583 barrels of heavy crude oil from the Wainwright field.

Canada exported petroleum and its products to a value of $38,034 in June; during the preceding month exports were valued at $213,428.

The Canadian importations of petroleum, asphalt and their products in June were appraised at $4,919,718 or an increase of 10.6 percent over the value of the May imports. The June imports were obtained from the following countries: the United States, 79.1 percent; Colombia, 10.3 percent; Peru, 7.9 percent; Venezuela, 2.1 percent, and India, Great Britain, Germany, Belgium, Alaska, Trinidad, France, Sweden, Japan and Norway, the remainder. Crude petroleum receipts during June totalled 131,873,166 gallons, consisting of 97,568,758 gallons from the United States, 17,728,710 gallons from Colombia, 12,935,698 gallons from Peru and 3,640,000 gallons from Venezuela.

TABLE 1

Production of Petroleum in Canada By Months, 1933-1935

MONTH	Barrels		
	1935(a)	1934(b)	1933
January	124,654	124,364	82,792
February	111,545	116,523	73,101
March	120,537	130,007	87,241
April	113,685	118,859	84,989
May	123,801	117,660	90,686
June	120,119	110,115	114,380
July	.....	122,067	100,445
August	.....	115,911	101,533
September	.....	115,011	98,273
October	.....	122,023	107,054
November	.....	113,196	108,323
December	.....	117,133	113,724
Total—Calendar Year	.....	1,422,869	1,162,541
Total—Six Months ending JUNE	714,341	717,528	533,189

(a) Subject to revision. (b) Revised.

AUSTRIA OUTPUT UP

1935 expected to double 1934 production

PRELIMINARY estimates of crude production in Austria for the first six months of 1935 indicate production for the whole year will double that of 1934, when about 5000 tons were produced.

Erdolproduktionsgesellschaft's Gosting 2, a wildcat completed since inauguration of Austria's current wildcat campaign, alone will have produced a minimum of 7300 tons during the year, barring unforseen developments. At present the well is yielding from 20 to 30 tons (roughly from 140 to 210 barrels) per day. The same operator's Gosting 4, drilling below 3700 feet at latest reports from Vienna, has shown traces of oil and gas and is reputed to stand a fair chance of becoming a commercial producer.

In the same area, Gewerkschaft Raky Danubia has abandoned Gosting 3, although Gosting 1, completed by the Raky interests about 19 months ago, has been recently deepened to a new horizon expected to increase the yield of the well beyond the 20 tons per day currently produced. Preparations are being made by Gewerkschaft Raky Danubia to start two additional tests in the vicinity of the Gosting wells.

Other wildcat operations in Austria have not been so successful, notable operations of the Vacuum Oil Company near Laa, a prospect on which drilling began late in 1934. Although this particular prospect now is listed as abandoned, it is reliably reported Vacuum interests will endeavor to prove up other likely areas.

ITALY BUYS SHARES

Italian interests have obtained a controlling number of shares in Mosul Oil Fields, Limited, affiliated organization of British Oil Development Company in which Italian interests also are reputed to hold substantial share ownership. Francis M. Rickett, British promoter prominently identified recently in the Ethiopian Concession granted to African Exploration and Development Company, is said to have been one of the organizers of British Oil Development Company.

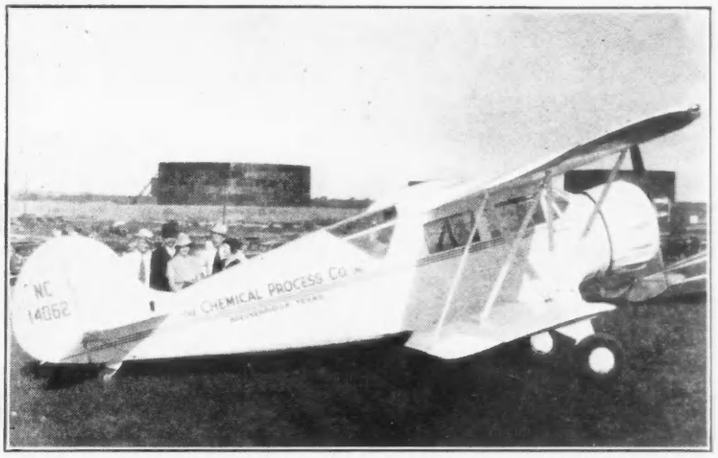
TRADE AGREEMENT

Bulgaria would buy oil from Russia in exchange

Bulgaria is attempting to negotiate a trade agreement with Russia whereby Russia will furnish practically all Bulgaria's petroleum requirements and agree to purchase in return sufficient of Bulgaria's agricultural products to balance the trade.

In this connection, during 1934 a ma-

We operate our own plane for the convenience of our customers and our field representatives in making contacts and field surveys.



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jority of Bulgaria's petroleum requirements were furnished by Rumania, in fact, 95 million levas worth. (A leva is the Bulgarian monetary unit.) Russia during 1934 furnished only six million levas worth of petroleum products to Bulgaria.

TRINIDAD INCREASES

Production in upward trend last few months

CUMULATIVE total production for Trinidad, British West Indies, for the first seven months of 1935 amounted to 6,501,986 imperial barrels, with a marked upward trend appearing and continuing for the months of May, June and July, according to Nelson Betancourt, acting inspector of mines on the island.

July, with an accredited yield of 988,341 imperial barrels from Trinidad fields, represents the peak month of the year thus far. Production by months in Trinidad during 1935, figures in imperial barrels:

Month	Total Prod.
January	915,220
February	843,619
March	919,848
April	909,946
May	953,108
June	972,904
July	988,341
Total First Seven Months	6,501,986

NEW KOREAN CONCERN

Korean Petroleum Company is the name of a new company recently chartered in Korea with a capitalization of 10 million yen for the purpose of building and operating a refinery. According to reports, preliminary plans of the organization have been approved by the Japanese government, which has adopted the policy of encouraging the formation of such organizations by purely Japanese groups.

HUNGARIAN WILDCAT

European Gas & Electric Company's wildcat near the Hungarian village of Mihalyi, which recently blew out from 5248 feet with a pressure of 2940 pounds, is shut down pending an analysis of gas.

The wildcat, located near the bank of the Danube river, threw mud over the crown block when the blow-out occurred. Local opinion is to the effect that the 1600-meter sand referred to above will prove commercial.

PURE OIL COMPANY

Pure Oil Company of England has no connection with Pure Oil Company operating in the United States of America, according to Charles A. Kreps, attorney for the latter concern.

An item appeared in a recent issue of THE OIL WEEKLY telling of the formation of Pure Oil Company of England.

Geology Meeting

MEXICO CITY EXPECTS BIG A. A. P. G. REPRESENTATION

SAN ANTONIO.

A large number of geologists and their families from all parts of the United States are expected to attend the combination Mid-Year meeting of the American Association of Petroleum Geologists and the annual meeting of the San Antonio Geological Society to be held in Mexico City, Mexico, October 16 and 17.

Elaborate plans for the technical session and entertainment have already been completed. The director of the Geologic Institute of Mexico, the various geologists in Mexico, and the several scientific societies in the city, have combined their efforts to make this one of the most successful geologic conventions ever held. They have been working with enthusiasm and energy for the past several months toward this end and have raised, partly through help from the Mexican government, about $3000 for the staging of this entertainment; this was entirely unsolicited by this geological society. Dr. Ordonez has been especially active in this work.

The technical session will be held in the mornings only. In addition to papers on the geology of Mexico and the Mexican oil fields there will be presented papers on the physiography of Mexico, mining, history, and possibilities of future production from formations older than the Cretaceous, particularly the Jurassic. These papers will be presented by Dr. Aguillera, director of the Petroleum Institute of Mexico, by Dr. Ordonez, dean of Mexican geologists, Louis Kellum, Bill Kane, Jim Tatum, Tom Callahan and L. J. Ridings.

The entertainment is far more elaborate than originally planned. It includes trips to the Pyramids, various museums, Chapultepec castle, the Desert of the Lions, with dinner in the great cave, and a trip to Taxco—the highlight of the convention. The valley of Taxco is reported to be the world's most beautiful panorama. In addition there will be a dance a-la-Mexicana, with some of the best entertainers in Mexico, a reception at the American embassy, as the guests of Ambassador Josephus Daniels, and a concert in the Palace of Fine Arts by the Mexican National Symphonic orchestra. This is one of the world's most beautiful buildings.

The highway to Mexico City is now open for safe and pleasant travel. The driving time is about 22 hours from Laredo. There are now no narrow passes through the mountains, all cuts having recently been widened for two-way automobile travel. The suggestion is that a night be spent in Monterrey, another night in Valles, El Mante, or Tamazunchale, and arrive at Mexico City the middle of the next afternoon. The Mexican Gulf Company camp is on the highway near Tamazunchale and the geologists there have offered good food and shelter provided the geologists bring their own cot and bedding. If this is not done they have invited everyone to stop by for a social chat and refreshments.

An excellent geologic road map in colors and on a large scale with topographic outlines has been prepared for each person making the trip, together with an excellent geologic road log describing the formations crossed. This has not been available heretofore from any source.

The cost of this trip will be surprisingly low; particularly is this true where two or persons drive down in the same car. A large part of the entertainment at Mexico City is free (furnished through the courtesy of the Geologic Institute and others.) Hotel rates, with the Regis as headquarters, are less than in the United States. This is also true of meals. Naturally, any amount of money can be spent that anyone desires, but the actual cost should not be more than $70.00 per person maximum. Plane service is excellent, at reduced rates. The round-trip fare from Brownsville is $60, leaving at 9 a. m., and arriving at Mexico City at 1:45 p. m. The railroad fare from San Antonio is a little over $42, pullman not included. From Monterrey the round-trip fare is $26.70, plus pullman of $11.20, making a total of $37.90 (Pullman suitable for two). From Nuevo Laredo the round-trip fare is $34.92, plus $14.28 round-trip pullman, making a total of $49.20. The train that leaves San Antonio at 9 p. m., or Monterrey at 8:50 a. m., is air-conditioned, with excellent diner service.

Joe Dawson is president of the San Antonio Geological Society, and the Convention Committee includes: William G. Kane, chairman; Dr. Ezequiel Ordonez, co-chairman; William H. Spice, Jr., Philip S. Schoeneck, Thornton Davis, Lowell J. Ridings, Olin C. Bell.

TO MAP NEW GUINEA

A group of aviators are scheduled to leave Holland during September for New Guinea, East Indies, where they will take part in an aerial mapping campaign for New Guinea Petroleum Company, a new organization controlled by Royal Dutch Shell and Standard Oil Company of New Jersey.

The aerial mapping will be followed by geophysical prospecting prior to actual drilling on whatever prospects may be found likely. It is estimated preliminary work necessary before drilling can start will not be finished before early in 1937.

[*Continued from page 8*]

found that only three more trucks left the field during a 24-hour period than were reported as loaded at refineries. He thus concluded that no serious amount of crude oil could be handled in this manner.

F. W. Fischer, Tyler attorney who represents several independent operators, attempted to prove by Griffin that this was conclusive proof that independent operators were not moving oil in excess of the allowable. He pointed out that tenders were required before oil could be moved by rail, which closed this outlet to excess runs. From that he reasoned that if the oil was not moving by truck, then any excess produced must go through the pipe lines. Griffin declined to express an opinion, pointing out that he had checked only one outlet and that he was unable to determine which of the oil moved was confiscated oil and which new crude.

Hardewicek inquired what progress the commission was making in handling oil stored in open pits. He said that reports were current to the effect that the commission was making little effort to destroy these pits, and said the charge had been made that new ones were being built all the time.

Thompson said that every time any oil was confiscated, the commission requested the attorney general to file suit against the owner for penalties, asking $1000 per day for every day oil has been stored in the pit. He said that the commission was making a survey of the field with the purpose in mind of filing suits against those operators who are storing oil in this manner when the owners can be found. Thompson explained that there is no statute forbidding construction of pits, but close observation is made of new ones in an effort to prevent having them filled with oil.

Southwest Texas

Readjustment of allowables in Southwest Texas to conform to those now fixed for the Government Wells fields was requested by John Boyle, attorney for the operators. He declared that it was unfair for these fields, the only ones in the area prorated on a potential basis, to have a lower allowable than other fields prorated on straight acreage.

He also protested the method used by the commission in making allowances for deep wells in the Greta field. He declared that the allowables assigned to those wells were deducted from the field allowable assigned to wells producing from the shallow pay, thus penalizing the shallow production with the completion of each new well in the deeper sand.

Van

A 13-pound rise in the average bottom-hole pressure in the Van field during the past three months was reported by Griffin. He said that tests had been completed on July 10 on 87 wells producing from the Brown sand which showed an average pressure of 1149 pounds.

Another series of tests on the same wells was completed on September 17, by which time the pressure was up to 1162 pounds. During the period between these tests, 2,250,000 barrels of oil were produced from the field and Griffin said that it would probably produce 500,000,000 barrels more.

He disagreed with the contention advanced by Charles I. Francis, Pure Oil Company attorney, that the increase in pressure indicated clearly that the field could produce under a higher allowable without causing waste. He said that there were other factors to be considered, and expressed the opinion that this field was similar to East Texas in that it had a combined water and gas drive, with water the most important factor.

He insisted that it was necessary to regulate production to control the water, which has penetrated to several wells on the edge of the field, but agreed that this condition was normal.

Francis declared that there is now a market demand for 10,000 barrels per day from the field in addition to the allowable of 35,700 barrels being produced.

Stanley Gill, petroleum geologist of Houston, testified that a larger percentage of the recoverable oil had been produced in the Van field than in the East Texas field, in proportion to the decline in pressure per million barrels produced. He said that the most efficient gas/oil ratios resulted when the field produced at the rate of about 52,000 barrels per day.

Increased allowables for Andrews County and for the Howard-Glasscock field were requested.

Market Demand Explained

Charles F. Roeser, Fort Worth operator, was called to the stand by Thompson to explain the methods used by the Federal Government in determining market demand. Roeser is a former member of the Federal Planning and Coordinating Committee.

He explained that the gasoline market for the entire country was surveyed and allocations made on that basis. From April first to October first there is a demand for an additional 15,000,000 barrels of gasoline above the normal run for the rest of the year.

This requires the production or withdrawal from storage of 30,000,000 barrels of crude, an average of 150,000 barrels per day.

At the conclusion of the hearing Thompson announced that Louisiana conservation officials had accepted an invitation from the Texas Railroad Commission to be present at a hearing on the Rodessa field. This hearing is to be held in Marshall on September 27.

MOVE OFFICES

Vernon, Texas.—Waggoner Refining Company last week opened offices here. Previously, the refining company offices had been in Electra, near the plant, in eastern Wilbarger County.

RODESSA HEARING

Allowable adjustment is essential for Texas wells

AUSTIN.

COLONEL ERNEST O. THOMPSON, chairman of the Texas Railroad Commission, who issued official invitations to conservation officials of Louisiana to be present at hearing on the Rodessa field, has been advised that some officials of the State of Louisiana will be present. The meeting is to be held at Marshall, Texas, September 27.

Probably the most difficult problem to be solved will be the adjustment of allowables in each state to insure ratable production.

Chairman Thompson has assured landowners that should the field extend into Texas, every effort will be made to enable Texas operators to compete with those across the line.

The two wells completed in Louisiana are permitted to produce 1750 barrels per day, 1600 barrels higher than allowable set by the Railroad Commission for wells in new fields of Texas.

It appears certain that some adjustment in allowables for wells along the state line will be essential, either an increase for those in Texas, or a sharp cut for Louisiana producers.

Thompson pointed out that gross production taxes in Texas are much lower than those in Louisiana, which would be an additional inducement for development on this side of the line.

TEXAS STUDIES TAX

New levies are likely to be made on the industry

AUSTIN.

THE first message from Governor James V. Allred to the legislature on the subject of taxation last week was so extensive that members believed it permitted introduction of any tax matter.

Specifically, the Texas Governor recommended a tax on chain stores and oil pipe lines. However, he urged that consideration be given also to "specific recommendations made as to the imposition of special taxes during the regular session".

In that message Allred declared that the pipe line companies were making "staggering" profits. He pointed out that ad valorem taxes were levied and an intangible assets tax which he considered relatively small.

He also suggested that the tax on crude oil might be studied and "given careful consideration", reminding the legislature of the effect that such taxes might have on the place in the world market held by Texas.

The pipe line tax recommended in the message to the special session urged the enactment of a statute that would add a tax of one percent on the gross assets of the pipe lines as a supplement to the intangible tax.

As quickly as the message was read, members came forward with bills meeting the suggestions of the Governor.

Representatives Palmer and Lindsey offered a chain store tax bill which made no exemptions, thus including filling sta-

tions. The bill provides a graduated tax in proportion to the number of stores in the chain. A tax of $1 for one store is provided; $50 tax would be placed on chains with two to five stores; five to eight stores would be taxed $100 each; eight to 20 stores would be taxed $500 each; 20 to 40 stores would pay $800 each; chains with more than 40 stores would be subject to a tax of $1000 on each store.

Representative B. E. Quinn of Beaumont, introduced a bill providing for a flat tax of one cent per thousand cubic feet on all natural gas produced or imported into Texas. This tax would be paid by the producer as a gross production tax. The only gas exempt would be that used for drilling or other lease operations. Provision is made for a meter on each well and each pipe line moving gas into Texas.

In his message the Governor said "... I particularly urge the immediate passage of a real graduated chain store tax, a sulphur tax, a tax on pipe lines ... and the corrective measures suggested ... with reference to various franchise taxes."

He pointed out that the state is already faced with a large deficit, that a $2,000,000 appropriation for rural aid must be met, that the $3,000,000 appropriated for the Centennial has not been found, and that there are no funds with which to carry on the old age pension for which the special session was specifically called.

Advocates of the chain store tax hoped to have an early committee hearing on their bill, and possibly bring it to a vote in the House early next week.

At the regular session the committee approved a similar chain store tax bill, with filling stations exempt.

Prices Not Normal

DESPITE FAVORABLE 1935 FIRST SIX MONTHS STATISTICS

By WILLIAM J. KEMNITZER, Petroleum Technologist

The statistical position of the petroleum industry in the United States during the first six-month period of 1935 was the best since the World War. Despite this favorable condition, however, prices were considerably below normal and in unusual relationship with one another.

Such anomalies were apparently the results of continued artificial regulation of the economic elements of the industry. The consequences were discrimination in allocations of production and markets, enchancement of controversial problems, general prosperity for the larger integrated organizations, and, with few exceptions, adversity for the smaller "independent" operators.

Prices as a whole averaged 1.0 percent above those of the first six-month period of 1934. The price of gasoline f.o.b. refinery, however, averaged 11.8 percent lower, and that of gasoline at the service station (exclusive of taxes) 4.5 percent lower than that of last year. Prices of other refined products increased generally. The average price of crude oil remained unchanged.

The days' supply on hand in stocks averaged 6.8 percent below that of last year. In consideration of this improvement in supply-and-demand, the prices of both gasoline and of crude oil should have increased. The average price of gasoline f.o.b. refinery, however, was 51.5 percent below "normal"[1]; that of crude oil 36.4 percent below normal; and that of gasoline at the service station 26.6 below normal.

Table 1 is a record of prices during the first six-month period of 1935 and 1934 compared with the days' supply in stocks and the "all-commodities" price index.

Total demand for all oils in terms of crude oil during the period averaged 2.8 percent above that of 1934. Domestic production increased by 6.1 percent, and imports increased by 8.1 percent. Stocks increased at the rate of 21,000 barrels daily as compared with a decrease of 69,000 barrels daily last year. Notwithstanding the addition to stocks, the days' supply this year was lower because the demand increased at a greater rate than did the stocks.

Despite the increase in domestic output, the total demand exceeded the domestic production by 126,000 barrels daily. The deficiency in domestic production was made up, and the additions were made to stocks by virtue of the imports which averaged 147,000 barrels daily. Although total demand averaged 2,864,000 barrels daily, the "allowable" for domestic production of crude oil (including natural gasoline and benzol) averaged only 2,633,000 barrels daily or an average 231,000 barrels below the total demand.

Table 2 is figures of supply and demand for all oils in terms of crude oil for the first six-month period of 1935 compared with the corresponding period of 1934 in thousands of barrels daily.

The irregularities in the relationship between supply and demand and prices, and among prices themselves during the period benefited some operators but harmed others. The major company was not handicapped, of course, by a condition wherein the price of crude oil remained unchanged while the total demand and price for refined products as a whole increased.

The independent refiner, however, was at a distinct disadvantage in face of a weakened gasoline price which was quite out of line with the posted price for crude oil. The independent producer, although receiving a price considerably higher than that warranted by the extremely low wholesale price of gasoline, did not receive a price in line with the excellent conditions of supply-and-demand. Furthermore, the comparatively high price he did receive did not compensate always for the loss in income through the "curtailment" program.

The statistical record of supply and demand and price during the first six-month period, 1935, substantiates the contention that artificial and arbitrary control of production in a Democracy is an economic absurdity. In fact, the contradictory nature of the discretionary measures during the period continued to be cumulative in adverse effect. The "potential" capacity to produce, for example, averaged the highest in the history of the industry.

With production-control through the agency of the Federal Government eliminated by the end of June, the remaining six months of 1935 are likely to witness increased competition with lower profits to the "major" companies, but with cheaper prices to the consumer and increased business for the so-called "independents".

[1]"Normal" is based on the relationship of the price to current conditions of supply-and-demand and the purchasing power of the dollar as compared with those relationships as existing during the period of the assumed normal year, 1926.

TABLE 1
Price Record in 1934 and 1935

ITEM	First Six-Month Period		Percent Change
	1934	1935	
Days' supply in stocks	213.2	198.8	—6.8
"All-Commodities" index	78.5	79.5	+1.3
"Petroleum products" index	50.1	50.6	+1.0
Crude Oil (per barrel)	$0.96	$0.96	....
Gasoline (per barrel)			
F. o. b. refinery	5.75¢	5.07¢	—11.8
Service Station (ex. taxes)	13.94¢	13.31¢	—4.5

TABLE 2
Supply and Demand in 1934 and 1935

ITEM	First Six-Months		Percent Change
	1934	1935	
Total Demand	2,785	2,864	+2.8
Domestic Production	2,581	2,738	+6.1
Imports	136	147	+8.1
Change in Stocks	—69	+21	....
"Allowable"	2,420	2,633	+8.8

Deep Test Shows

OLD FOX FIELD YIELDS A SMALL SIMPSON SHOW

WEEKLY STAFF REPORT

Ardmore.—Attention was further attracted to the northwestern part of Carter County early in the week when a small showing of oil was encountered at 7701 to 7703 feet in Carter Oil Company's Williams 1, SW NE SW 27-2s-3w, in the old Fox field. This test, now the deepest drilling well in the state, penetrated more than 800 feet of Simpson formation and should have the Wilcox sand at an early date.

Sinclair Prairie Oil Company's Stockton 1, SE SE SW 26-6s-2w, 16 miles west of the town of Marietta and 12 miles from the nearest production, drilled to 4598 feet, set nine-inch casing at 4571 feet and was waiting on cement to set. This test is thought to be in the lower portion of the Deese member of the Glenn series of Pennsylvania age.

Waco Turner's Munson 1, NE NW NE 35-5s-2, 14 miles southwest of Ardmore in southern Carter County, had water from 5002 to 5026 feet and was abandoned at that depth.

Jackson Failure

One of the most interesting wildcat tests in the southwestern portion of the state went into the records as a failure when Dengail Oil Company et al's Robinson 1, SE SE NE 32-1s-22w, 18 miles southwest of Altus in southwestern Jackson County, encountered granite at 5090 feet and was abandoned. It was located in the Pala Duro basin.

GYPSY ENTERS FITTS

Buys half interest in big block northwest of pool

Tulsa.—Announcement was made early in the week of the entry of Gypsy Oil Company into the Fitts area of Pontotoc County through the purchase of a half interest in a 2000-acre block assembled by Ramsey Petroleum Corporation northwest of the Fitts pool. Details of the transaction were not announced but it is understood that a sizeable cash payment, and oil payment and the drilling of a free well were involved. About 3500 acres will be included in the block when it is completed. Announcement was concurrently made of the staking of location for a Wilcox sand test in the SW SW NE 15-2n-6e, approximately two and one-half miles northwest of the nearest production in the Fitts pool.

Carter Oil Company et al's Thompson 1, C SL NE NW 34-2n-9e, near the town of Centrahoma, in western Coal County, topped Hunton lime at 5735 feet and was drilling below 5800 feet. This test is on one of the largest blocks in the southeastern portion of the state and is due to go to 7000 feet if necessary to test the Wilcox sand.

Four and one-half miles northeast of Atoka in north central Atoka County, Mid-Continent Petroleum Corporation et al were preparing to resume drilling after making a new contract on Fulton 1, SW SW SW 19-1s-12e. R. W. Vierson et al's Williams 1, NE SW NW 34-2s-10e, six miles southwest of Atoka, set 10-inch casing at 2136 feet and was waiting on cement to set. Seventeen miles northeast of Atoka in the northeastern portion of the county, R. H. Pierce et al were still shut down at approximately 1305 feet at Aetna Life Insurance 1, NW SW NE 10-1n-13e. Operators were moving in cable tools for a twin location and it was thought that the No. 1 would be abandoned. Considerable difficulty had been experienced in trying to carry pipe through badly caving formation.

New Development Plan

The Oklahoma Corporation Commission late in the week issued an order approving a new development plan which had been presented to it by operators in the Fitts pool of southeastern Pontotoc County. Under the new regulations operators will be permitted to produce as a common source of supply through the same string of casing the productive horizons from top of the Viola lime down to the middle series in the McLish zone. The sand found below 4400 feet in the lower portion of the McLish was designated Wilcox. Any operator desiring to produce this sand must set a string of casing at or near top of the sand which is to be considered a separate common source.

END EDMOND SUIT

Oklahoma City.—Litigation which has been pending for a number of months between Marathon Oil Company and Gulf Production Company of Oklahoma in which the title to a lease on the northwest quarter of Section 6-13n-3w, has been settled and the two companies are digging cellar for Hathaway 1, NE NE NW of the section. The new operation is one-quarter mile west of what is considered the present western edge of production and about the same distance northeast of a very small well which was drilled by the Gulf of Oklahoma. Litigation in this case is unique in the history of the oil industry in that the land owner is said to have been committed to a state hospital for the insane but later held to be competent. Prior to his being ruled competent a lease had been granted one of the companies by his estate. Subsequently the landowner granted a lease on the same tract to the other company in such a manner that both claimed the lease on 120 acres of the quarter section.

Pure Oil Company's Berquist 1, SW SW SE 30-14n-3w, in the northern portion of the pool and near the apparent fault on the east side, is one of the most interesting tests in the field. Wilcox sand was topped at 6706 feet and drilled to 6726 feet with nothing showing despite the fact it is an east offset to one of the largest wells in the pool. A large portion of the sand encountered in other wells was absent. Operators plugged back to 4495 feet and set a whipstock for directional drilling. At 4683 feet the bit re-entered the old hole and the test probably will be plugged to the surface and a new hole started.

Stanolind Oil & Gas Company's Davidson 1, NW NW NW 4-14n-3e, six and one-half miles west of Chandler in western Lincoln County, corrected total depth from 5105 feet to 5097 feet, then drilled to 5106 feet and yielded 619 barrels in 24 hours of natural flow. Top of the Wilcox sand was found at 5086 feet.

Arab Petroleum Company's McKiddy 1, SE SE NW 16-7n-1e, 10 miles northeast of Purcell in southeastern Cleveland County, cored from top of the Wilcox sand at 6868 to 6873 feet, recovering 10 inches of very soft salty sand with nothing showing. It was then cored to 6687 feet and shut down for electric logging.

POTENTIAL DECLINE

Oklahoma City.—The first 114 Oklahoma City Wilcox sand wells gauged for potential showed an average decline of 27.64 percent, a figure which is considerably less than had been generally anticipated. Under the order requiring the taking of potentials for the proration period commencing October 1, 1935, operators were permitted to take a 75 percent decline under the previous potential or to take an actual production gauge In the latter case wells are opened six hours, and producion gauges for the last four hours of that period are multiplied by six to determine the 24-hour rating.

GARFIELD TEST

Enid, Okla.—It was reported during the week that Indian Territory Illuminating Oil Company will start a wildcat test within the next two or three weeks in the NE NE SE 31-20n-4w, 18 miles southeast of here in southeastern Garfield County. The test will be on a large block assembled on the basis of seismograph study. The company recently took a six months extension on the northwest quarter of section 32-20n-4w, with the understanding

that a test be commenced within the near future. Carter Oil Company, Gypsy Oil Company, Sinclair Prairie Oil Company, Continental Oil Company and Stanolind Oil and Gas Company have acreage in the area.

PAWNEE TEST

Tulsa.—Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Denton 1, NE SW SE 32-22n-3e, 10 miles west of Pawnee in western Pawnee County, failed to get a water shut-off when tubing was set on packer and pulled the tubing to clean out. Top of the first Wilcox sand was encountered at 4225 feet and second Wilcox sand at 4260 feet. Total depth is 4297 feet, still in the sand.

OKLAHOMA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BRYAN COUNTY—		
Parks, Coats 1, se ne sw 1-5s-8e...	*	325
CREEK COUNTY—		
Freeland & Wright, Williams 1-A, se se sw 15-16n-9e	22	2962
Abraham et al, Dixon 2, nw sw nw 19-17n-10e	¶3	410
Deep Rock, Brinton 7, se ne sw 6-18n-7e	105	2480
Buckles, Lacey 2, ne se nw 22-18n-8e	5	2616
Evans, Evans 1, sw se se 12-19n-7e	12	2904
Commercial Drlg. Co., Tucker 4, ne ne sw 17-19n-9e	9	1198
GARVIN COUNTY—		
Bussey Mouldin 1, ne ne ne 20-1n-3w	*	90
GRADY COUNTY—		
Magnolia, Rockhold "B" 1, cwl e½ ne nw 11-4n-8w (otd 1380)	¶3	1895
HARMON COUNTY—		
Whatley et al, Hamilton 1, nw nw se 25-4n-24w	lcn.	abd.
Wilson & Walker, Wilhelm 1, se se se 30-4n-24w	lcn.	abd.
Mathis & Estes, Keith 1, se nw sw 12-5n-26w	lcn.	abd.
HUGHES COUNTY—		
Texas Co., Keaton 1, nw nw sw 4-8n-10e (pb 3580)	¶1½	4040
Magnolia, Diamond 2, ne sw nw 8-6n-8e	154	2747
Manahan Oil Co., Dixon "B" a, se se nw 12-9n-8e	168	1766
JACKSON COUNTY—		
Gypsy, Kelly 5, ne se ne 10-1n-20w	49	1493
JEFFERSON COUNTY—		
Howell et al, Curry 1, se se sw 36-4s-9w	*	2501
KAY COUNTY—		
Lindsay, Waggoner 1, nw nw ne 3-27n-1e	*	4235
LOGAN COUNTY—		
Gypsy and Carter, Knowles 4, se sw nw 34-17n-4w	994	6260
Phillips, Lee 1, cne nw 3-19n-2w (pb 5067)	408	5075
MARSHALL COUNTY—		
Leavell Coal Co., Eppler 11, sw se ne 36-7s-5e	*	500
NOBLE COUNTY—		
Carter, Webber 4, ne sw sw 20-20n-2w	¶3-3118	5148
Stanolind et al, Frederick 3, cse se 28-20n-2w	50	5165
Stanolind & Amerada Pfeiffer 1, csl ne sw 33-20n-2w	2311	5040
Stanolind et al, Voss 8, ne sw se 28-22n-2w	2105	4858
OKLAHOMA COUNTY—		
Westgate Oil Co., Carey 7, cwl nw se 34-12n-3w	¶57-1332	6511
Carey 8, nw ne se 34-12n-3w	¶72-5358	6462
OKMULGEE COUNTY—		
Lynch et al, Ashley 1-A, ne nw ne 30-14n-14e	*	2524
OSAGE COUNTY—		
Barnsdall, 18, ne se se 18-23n-12e..	25	1606
Lewis Prod. Co., 10, ne sw nw 21-24n-7e	305	2683
Gault Brown Co., 2, se se nw 14-24n-8e	30	2255
Carter et al, 10, sw nw sw 3-25n-6e	¶1-328	2740
Champlin Ref. Co., 5, se ne se 4-25n-6e	150	2770
Carter et al, 3, se ne nw 15-25n-6e..	1025	2862
Enterprise Transit Co., 4, nw ne nw 35-26n-6e (pb 2937)	1276	2947
5, nw ne ne 34-26n-6e	¶2-2536	2916
Ross O&G Co., 5, se sw se 22-28n-10e	*	700
PONTOTOC COUNTY—		
Amerada, Smith 2, ne sw nw 28-2n-7e	3410	4187
Moore, Woodroof 5, ne ne se 29-2n-7e	3726	4186
Radial Oil Co., Simpson 2, nw nw nw 20-4n-8e	*	1906
Delaney, Holt 1, se se nw 22-5n-8e	*	862
POTTAWATOMIE COUNTY—		
Blackwell et al, Patterson 1, ne sw sw 4-5n-3e	48	2703
O'Meara et al, Bolby 1, nw sw se 24-6n-3e	*	3859
Hightower & Hinkle, Sillyman 1-A, se se nw 19-6n-4e (pb 3633) ..	*	3635
SEMINOLE COUNTY—		
Mudge Oil Co., Thomas 1-A, nw ne sw 9-6n-7e	*	1862
Pittsburg Pipe Co., Harris 1-A, sw sw nw 18-6n-8e	140	2836
Wood Oil Co., Lincoln 2, ne sw sw 28-9n-6e	1045	4124
Amerada, Chase 11, ne se se 29-9n-6e	796	4131
Carter, Loy 1, cw½ sw se 7-10n-6e	600	4609
Douglass 2, cw½ se nw 18-10n-6e	452	4605
STEPHENS COUNTY—		
Boring & Sturm, Winters 1, ne ne nw 13-1n-4w	lcn.	abd.
WAGONER COUNTY—		
Cahill et al, Canard 3, ne sw nw 8-17n-16w	15	1017
Sand Pet. Co., Lovett 2, se se se 22-17n-16e	75	822
Lovett 3, ne ne se 22-17n-16e...	20	842
Childers 1, sw sw nw 23-17n-16e..	100	900

*Failures; †Junked; ¶Million cu. ft. gas.

OKLAHOMA ACTIVE

Tulsa.—New activity principally in the Naval Reserve and South Burbank pools placed Osage County in the new work lead as the state showed an increase of almost 75 percent in first reports during the week. Eighteen counties reported 54 firsts compared to 31 for the preceding week. Osage County had 13; Seminole County, eight; Creek County, five; Okmulgee County, four; Noble, Pontotoc and Wagoner Counties, three each; Carter, Hughes, Oklahoma and Stephens Counties, two each; and Beckham, Comanche, Garfield, Jackson, Jefferson, Okfuskee and Pittsburg Counties, one each.

36 Oil Wells

Of the 55 completions, 36 were oil wells with combined initial of 32,302 barrels, three were gas wells with combined initial of 7,500,000 cubic feet, 12 were dry holes and four were abandoned locations. The Texas Company's Keeton 1, NW NW SW 4-8n-10e, 10½ miles northeast of Holdenville in north central Hughes County, was a discovery gas well rated at 1,500,000 cubic feet. It had been drilled to 4086 feet in Wilcox sand and plugged back to 3580 feet for completion. The gas well and three dry holes involved a total of 11,101 feet of exploratory drilling, one old well was deepened 515 feet and 50 other completions had combined total depths totaling 134,774 feet, a total of 146,390 feet of drilling completed during the week.

Huge Oxford Wells

INCLUDE KANSAS' LARGEST COMPLETION IN HISTORY

WEEKLY STAFF REPORT

Wichita.—The Oxford pool pushed nearer the 100,000-barrel potential mark when Lario Oil and Gas Company and Barnsdall Oil Company's Wenrich 2-A, NW NE NE NW 23-32s-2e, in the southern portion of the pool, was given an indicated rating of 21,799 barrels from Simpson pay drilled to 2882 feet. Two days before Amerada Petroleum Corporation and Sunray Oil Company's Gassoway 1A, SE SE NE SW 14-32s-2e, established a record as being potentially the largest well ever completed in the state when it was given an indicated potential of 27,466 barrels from the same pay. Aside from yielding the largest wells potentially that the state has seen the pool is of interest by the nature of flow and characteristics of the oil. The wells are completed with cable tools and upon withdrawal of tools at the time of completion the flow seldom reaches higher into the derrick than the top of the walking beam. The flow is similar to that of an artesian water well. Very little gas is contained in the oil but that which is given up has a relatively high percentage of hydrogen sulphide gas. Temperature of the oil at the flow tanks from Gassoway 1-A was 106 degrees Fahrenheit, indicating an oil-water contact not far from the well. Both wells mentioned above are outside of the townlot area.

T. A. Morgan, director of the oil and gas conservation department of the corporation commission, announced official potential of the Oxford pool deep production at 112,732 barrels for the 11 completed wells. Ratings range from 500 to more than 27,000 barrels. Effec-

tive September 16 allowable for the pool was reduced from 6.77 percent to four percent of the potential. The pool has a pipe line outlet of about 17,000 barrels per day.

New Rice Pool

Eastern Rice County had a new pool in the week when Anderson-Kerr et al's Wernet 1, NW NW NW 24-20s-6w, six miles south of the town of Windowm, topped chat at 3287 feet, drilled the plugs to 3295 feet and had 300 feet of oil standing in the hole. Nearest production is in the Welch pool to the southwest.

Large Schulte Pool Well

One of the most interesting items of Kansas field news was the discovery of gusher production in the Schulte pool, 10 miles southwest of Wichita, where D. R. Lauch and Shoreline Petroleum Company's Jordan 3, NW NW SE 6-28s-1w, flowed 550 barrels the first hour and was estimated good for 15,000 barrels from Wilcox sand drilled to 3670 feet. Gravity of the oil is 44.1 degrees corrected.

Otis Area Extended

Morgan and Flynn extended gas production in the Otis area of eastern Rush County when Hartman 1, 4-18s-16w, flowed at the rate of approximately 250,000,000 cubic feet from Kansas City lime topped at 3265 feet. Conglomerate was encountered at 3510 feet, quartzite at 3526 feet and Granite Wash from 3532 to 3539 feet, the total depth. Eight-inch casing had been cemented at 3383 feet.

Ellis Wildcat Strike

Louis Roark et al's Bemis 1, SE SE SE 16-11s-16w, 16 miles northeast of Hays in northeastern Ellis County, was showing for a discovery of importance when it encountered pay at 3025 to 3050 feet and had 500 feet of oil in the hole in two hours. It is approximately five miles northwest of the Fairport pool, which is over the line in northwestern Russell County.

Reno County

Haynes Brothers et al's Mueller 1, SE SE NW 30-24s-4w, wildcat discovery well nine miles southeast of Hutchinson in eastern Reno County, established a potential of approximately 400 barrels on a 24-hour pumping test early in the week. This test was drilled to 3701 feet in Hunton lime topped at 3690 feet and plugged back to the chat which was topped at 3355 feet. A second location is anticipated at an early ate.

Scott County Well

Atlantic Oil Producing Company's Dague 1, C SW NW 14-20s-33w, third test in the shallow Water pool, 12 miles south of Scott City in southern Scott Couny, topped Mississippi lime at 4620 feet, drilled to 4646 feet and pumped 731 barrels in 15 hours after being shot with 30 quarts and treated with 1500 gallons of acid. This pool is the westernmost oil production in the state.

Kansas operators feel that the new outlet which the western portion of the state will have through the construction of the Kaw Pipe Line and Socony-Vacuum system from Valley Center to Russell County, will give new impetus to development. During the first six months of the year an average of 26.7 first reports were made per week. The 12 week's period ending September 22, established a record of 24.1 first reports per week with most of the decline since the latter part of August. This slowing down of field activity can be laid primarily to the fact that a number of pools in western counties are without connections. The new line mentioned above should tend to encourage additional development especially in the newer pools where in a number of instances only one or two wells have been drilled. Although the new system will not be completed much before the first of the year the fact that a new outlet will be established should encourage new work throughout the fall months.

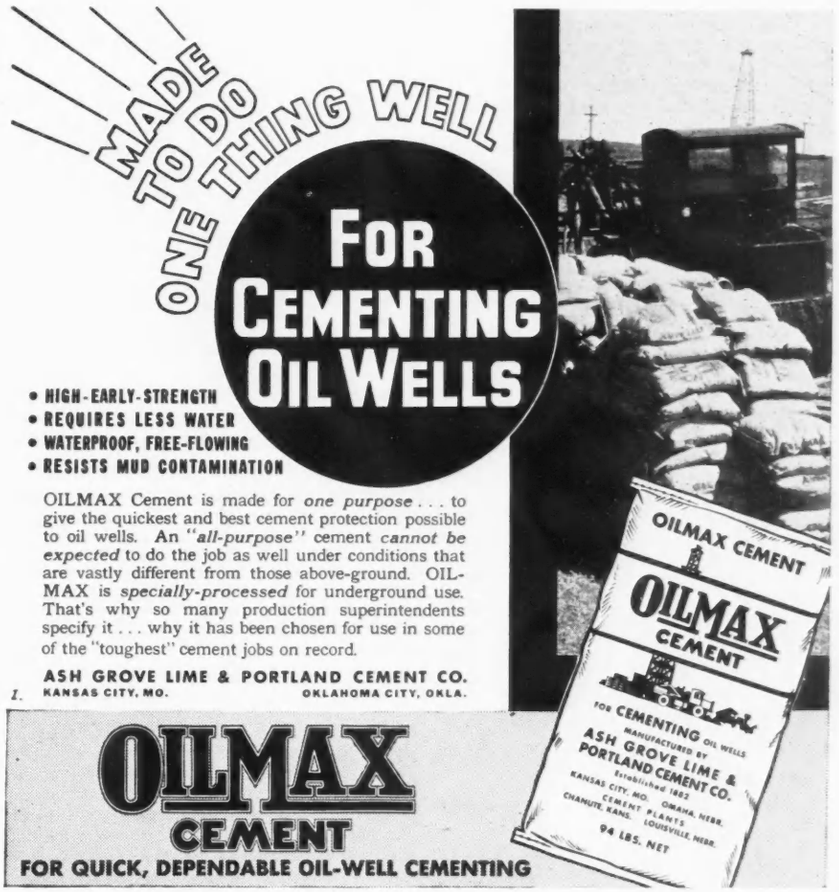
During the past week the state showed a slight increase when 22 first reports were made from 12 counties compared to 16 during the preceding week. Ellsworth County had the lead with five first reports; Coffey and Rice Counties, had three each; Cowley and Sumner Counties, two each; and Butler, Greenwood, Morris, Rooks, Russell and Sedgwick Counties, one each. The 16 completions included 11 oil wells with combined initial of 19,574 barrels and five dry holes, all of which involved 41,138 feet of drilling. This was divided as follows: Two wildcat dry holes, 7391 feet; four old wells deepened 2010 feet and 10 others 31,737 feet.

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARBER COUNTY—		
Lario O&G Co., Whelan 2, cse nw 32-31s-11w (pb 4340)	*	4975
BARTON COUNTY—		
Darby Pet. Co., Kultgen 2, ne ne nw 16-16s-12w (pb 3353)	320	3361
COFFEY COUNTY—		
Oko Oil Co., Kelly 22, se se sw 14-23s-13e	25	1802
COWLEY COUNTY—		
Alma Pet. Co., Finch 1, ne nw ne 7-35s-3e	75	3496
ELLSWORTH COUNTY—		
Vickers Pet. Co., Jannsen 4, se sw nw 13-17s-9w	575	3222
Empire, Rolfs 10, sw ne ne 14-17s-9w	1914	3188
Skelly, Dees 2, se ne sw 14-17s-9w	2346	3175
HARVEY COUNTY—		
Inco Oil Co., Sperling 1, se ne nw 23-22s-2w (pb 3345) (otd 3345)	120	3506
McPHERSON COUNTY—		
Lario O&G Co., Lewis 1, nw nw nw 36-19s-2w (pb 3420) (otd 3389)	30	3430
RUSSELL COUNTY—		
Bridgeport Machine Co., McAllis 1, ne ne se 33-15s-13w	1248	3350
Coraleana Oil Co., Flegler 1, se se se 11-15s-14w	*	3359
STAFFORD COUNTY—		
Stanolind, Allen 1, sw nw se 31-22s-11w	744	3568
SUMNER COUNTY—		
Allison & Fitzwilliams et al, Hitchcock 1-B, se se nw 16-30s-1w	*	4032
Champlin Ref. Co., Latta 1, sw se nw 9-30s-2w (otd 3057)	*	3255
Shell, Rothwell 1-A, se ne sw 14-32s-2e (otd 1261)	12,177	2871
WOODSON COUNTY—		
Sheedy, Snattinger 1, ce½ ne ne 3-26s-14e	*	1600

*Failures; †Junked; ¶Million cu. ft. gas.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Wildcat Work Drops

EXTENSION ATTEMPTS ARE OF CURRENT IMPORTANCE

WEEKLY STAFF REPORT

Tyler, Texas.—Since wildcatting has not uncovered any new fields in the East Texas district for considerable time, interest in the area has waned appreciably. Consequently, prospecting in virgin areas in the district is down to comparatively small proportions; and interest is restricted chiefly to extensions of established fields and to the deep test at Cayuga field.

Also, there has been considerable lease and royalty trading in the wake of the discovery of oil at Rodessa, across the Louisiana line. However, enthusiasm was appreciably dampened a week ago when a Rodessa well, drilled too deep, went into salt water.

The deep test at Cayuga, northwestern Anderson County, is Tide Water Oil Company and Texas Seaboard Oil Company's N. N. Wills 21-A. Information on the test is being withheld by the operators, but it was reported late last week that coring was progressing below 9175 feet. The test is expected to go at least to 10,000 feet, unless it produces at a shallower level. Put down as a test of the Trinity series, it recently tested hot salt water in the Trinity at 8867 feet, and is drilling ahead.

Aside from the deep test, Cayuga has been furnishing some interest in the from of tests seeking to extend the limits of the regular Woodbine production. On the north end of the field production has been extended across the county line into Henderson County. However, the extension has precipitated questions as to the exact location of the county line, and the line is being re-surveyed. The new survey will determine whether or not part of the established production actually lies in Henderson County. Roeser & Pendleton's C. L. Litchfield 1, T. J. Lindsey Survey, is a recent completion, supposed to be in Henderson County. It was completed as an oil well at 4090 feet. In the north extension of the field, Roeser & Pendleton have made another location, and Kirby Petroleum Company has spudded C. L. Litchfield 1, I. Clendennen Survey. In the proven area at Cayuga H. L. Hunt has completed Loper 2 as an oil well at 4097 feet. Meanwhile, the joint interests, Tide Water Oil Company and Texas Seaboard Oil Company, have abandoned their Cayuga south outpost test, W. Goode 3, J. C. Collins Survey, at 4309 feet. Drilled about two miles south of nearest oil production, the test went into the water zone without encountering oil or gas.

In the Long Lake area, southwestern Anderson County, outpost tests are under way to the north and also to the east of production, both being drilled by Tide Water Oil Company and Texas Seaboard Oil Company on their joint holdings. H. B. Keeling 1, Simon Sanchez Survey No. 10, north of Long Lake field and one half mile southeast of the same operator's Shaw & Cern 1, which is producing oil, showed salt water and mud on drill stem test at 5386-5404 feet. The operators have set 5-3/16-inch casing at 5380 feet, and will perforate to test gas sand that was indicated by electrical logging device to be present at 5244-5274 feet.

East of Long Lake production, and in Leon County, the Tide Water-Texas Seaboard interests were drilling chalk at 3730 feet the latter part of last week in A. W. Johnson 1, Simon Sanchez Survey No. 7. It encountered the top of the Pecan Gap formation at 3630 feet, and has 9⅝-inch casing cemented at 2125 feet.

Camp Hill Area

Another field of eastern Texas that is interesting is the Camp Hill area, eastern Anderson County. In that area Gulf Production Company is drilling two tests, both of which last week were around depths at which production has been established in one half dozen wells, that currently yield around 500 barrels combined daily output. Gulf Production Company's M. A. Davey-Royall 3, John Squyres Survey, last week showed mud, oil, and salt water, on a 15-minute drill stem test at 5073-5117 feet, through three eighths-inch choke. The well logged Pecan Gap formation at 3925-4190 feet, Austin chalk at 4908-5107 feet, and sub-Clarksville at 5114-5123 feet. The field's established production is from the sub-Clarksville zone, which is in the Eagle Ford section being below the Austin chalk and above the Woodbine sand. Gulf Production Company's other test at Camp Hill is E. T. McCain 1, P. Martin Survey. It was drilling below 5050 feet the latter part of last week, after having logged Pecan Gap formation at 3900-4140 feet and top of the Austin chalk at 4877 feet.

Leasing Activity

Leasing and royalty trading stimulated by the discovery of oil at Rodessa has extended over a wide area. In addition to the play immediately southwest of Rodessa production, in Cass, Marion, and Harrison Counties, there has been leasing and trading also in several other areas. One district getting a play has been a belt two to four miles east of the East Texas field, paralleling the field's eastern boundary, and extending about 15 miles, with a point a short distance southwest of Longview as the center of the play. Another lease play developed around Mt. Enterprise, in southeastern Rusk County, southwestern Panola County, and northwestern Shelby County.

PLUGGING WILDCAT

Breckenridge, Texas. — Plugging orders have been issued for Humble Oil & Refining Company's J. T. Davis 1-A, centering upon a 18,400-acre wildcat block in Throckmorton County, after encountering water in the Ellenberger limestone, the projected goal, at 5496 feet. Top of the Ellenberger has been tentatively called at 5260 feet.

Reports indicate that the company will move the heavy-duty rotary rig used in drilling the above deep wildcat to southwestern Jones County to test a large block of leases held near the Noodle Creek field for Ellenberger lime production.

FIELD WORK LOW
But revival of activity expected in East Texas

Tyler, Texas.—Although drilling in the East Texas field has been down to comparatively small proportions the past two weeks, predictions are being made that a revival in activity will likely occur shortly. Last week there were only 50 completions and the week before there were 51, compared with 69 the week before that. Several weeks back it was common for completions to run from 75 to 100 per week.

The contraction of field work the past two weeks was attributed to several circumstances, among them having been the pending important developments at Austin. The past week witnessed opening of a special session of the legislature and a statewide proration hearing by the railroad commission. The East Texas operators were desirous of seeing what new laws and what new commission orders might result, and consequently were holding up some of the normal field work.

It has been intimated that the legislature might change the oil laws in connection with the spacing of wells, to permit closer spacing. And for that reason the special session was attracting attention. The commission hearing was awaited particularly in connection with the proposal for gauging all East Texas wells for setting new allowables, while in that regard there had been intimations also that the large field might be temporarily shut down before and during the taking of the gauges.

Non-Flowing Wells

The past week's record of completions emphasized again the declining vigor of the East Texas field, over 20

percent of the wells having failed to qualify as producers. Among the 50 tests completed, there were only 39 that flowed naturally. The 11 others included nine non-flowing oil producers and two dry holes. Among the nine oil wells which were not capable of natural flow, there were six that were made productive by pumping, and three that were swabbed.

The 50 completions of the week included 19 in the Joiner section of the field, 19 in the Kilgore area, and 12 in the Longview section.

The two dry holes were located in the Kilgore and Longview areas.

West Texas Active

DRILLING IS ENCOURAGED BY NEW PRODUCING AREAS

WEEKLY STAFF REPORT

San Angelo, Texas.—For several important reasons, West Texas is currently the scene of a comparatively large amount of drilling. In the first place, most of the larger companies are obligated to carry out substantial drilling programs this year and next year, because of expiration of leases acquired in the West Texas development boom of about 1926 and 1927.

A second important reason for the present material volume of drilling in West Texas is the noteworthy success with which operators have been rewarded lately in drilling wildcat or semi-wildcat locations. A high proportion of such exploratory drilling has led to establishment of new productive territory, either adjacent to established fields or in strictly virgin areas.

Counties which are particularly active at present include Andrews, Ector, Ward, and Winkler.

Extension in Ector County

Ector County development has been featured lately by the northward extension of the North Cowden field. In that area Sun Oil Company last week was rigging up to drill O. B. Holt, Jr., 1-B, about one mile northeast of O. B. Holt 1. The Holt 1 recently proved the area for oil production, and is flowing around 35 barrels daily, including 15 percent b.s. and water, from 4350 feet. Holt 1 is about 2½ miles north of production in the North Cowden field. The newt test, Holt 1-B, is located in the northwest corner of the southwest quarter of Section 6, T. & P. Survey, block 43, Township 1-north, being near the Ector-Andrews county line, in Ector County.

Andrews County Wildcat

A feature of West Texas development lately has been the prospect of a new producing area for Andrews County, given by the wildcat of Lou Stogner and associates, located about 10 miles northwest of the Means pool. The well is C. C. George-Texas Pacific Coal & Oil Company 1, C SE SE Section 25, Block A-22, PSL Survey. It was drilling anhydrite at 3460 feet last week, after having encountered a gas flow of about one-quarter million cubic feet daily in Yates sand at 3070 feet, and a rainbow show of oil at 3090 feet. The gas was struck at a slightly higher level than in the Means pool. In the latter area, wells are producing oil from lime found around 4600 feet, and in reaching the oil pay zone go through the gas-bearing Yates sand.

New Wells

Completions in West Texas last week numbered 21, compared with 11 the week before, and were scattered over 11 counties. The 21 completions included 16 oil wells, one gas well, and four dry holes. These figures do not include abandoned locations.

Ector County led in the number of wells completed, having had five completions. Meanwhile, Ward County had four completions; Winkler County, three;

EAST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Arkansas Fuel Oil Co., Wheelis 13..	6800	3698
R. E. Campbell, Fee 1	7500	3835
G. L. Dowlearn, Slaughter Hrs. 1..	3000	3616
Elm Oil Co. (F. W. Fisher), Easton B-10	7800	3760
Genecov & Roosth, Bateman 4	3200	3752
Gulf, L. P. Thrash 11	5400	3695
W. B. Hinton, H. Mayfield 10	2600	3765
H. Mayfield 12	3600	3783
Jones et al, Frederick 2, pumped..	250	3565
Marathon, S. H. Moores 33	6000	3755
McKinney & Barr, Green 3	7200	3809
J. F. Merrick, Negro Mas. Ldg. 1..	12,000	3814
Merrick et al, Lucinda Wade (Roberson) 1	12,000	3850
Perry & Storey, Wosley 1, pumped..	250	3593
B. P. Phillip et al, Maxwell 2, pumped	100	3657
Sinclair Prairie, Mayfield Co. A-58, swabbed	960	3782
Tex-Canadian Co., Gilstrap 1, pumped	150	3676
Herring 1, pumped	150	3588
Ward Oil Co., E. S. Thrash 32	4200	3750
KILGORE AREA—		
British-American, Ector 4	10,000	3635
Burwyn et al, Florey 6	8000	3669
Champlain & Bass, Roberson 5, swabbed	200	3617
Great States Co., R. R. Still A-1, pumped	50	3540
Gulf, H. Baton 6	5000	3668
Jernigan 15	8500	3702
Longley 4	7500	3657
W. Oten 8, swabbed	480	3656
Humble, Tom Barton 7	4000	3720
T. D. Humphreys, C. C. Crews 2..	5000	3630
C. C. Crews 3	5000	3668
Hurtle Oil Co., J. Williams Est. B-7	5000	3627
Renwor Oil Co., L. Butts 1	*	3560
Sam P. Shelburne, W. B. Walker A-6	5000	3563
W. B. Walker A-7	1500	3565
Sinclair Prairie, Thomas 7	10,000	3722
Sun, Reese 15	4200	3691
V-Tex Oil Co., Sabine River, Tr. 8	12,000	3460
Woodley Pet. Co., J. N. Peterson 5	10,000	3661
LONGVIEW AREA—		
Arkansas Fuel Oil Co., Killingsworth 1	8500	3618
Lathrop C-13	8800	3553
S. S. Smith B-7	7500	3522
Conservative Oil Co., Mackey 6..	6000	3709
Empire Gas & Fuel Co., Joe Border 15	11,000	3596
Humble, A. L. Shelton 6	6000	3688
Lyons & Neeley, McHaney & Loeb Hrs 1	8000	3553
John Mabee, Whitehurst 7	6500	3648
Monday Oil Co. (Alma Pet. Co.) J. W. Younce 9	5000	3605
Port Bolivar, Red Irion R. R. 1	*	3665
Shano et al, S. G. Smith 5	4000	3577
Sun Oil, Thomas 11	7500	3530
CAYUGA FIELD—		
H. L. Hunt, C. L. Loper 2	1500	4097
Roeser & Pendleton, C. L. Litchfield 1, T. J. Lindsey sur, n end field	1500	4090
ANDERSON COUNTY (Edge Cayuga Area)—		
Tide Water-Texas Seaboard, W. Goode 3, J. C. Collins sur, 2½ mi s oil prod, and s of gas wells	*	4309
LIMESTONE COUNTY—		
J. E. Mills, J. B. Hunt 1, Isreal Wood sur	*	3802

*Failures; †Junked; ¶Million cu. ft. gas.

WEST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CRANE COUNTY—		
Dobbs Oil Co., Jax Cowden 1, wildcat, sec 38, blk 1, H&TC sur	*	2343
CROCKETT COUNTY—		
Adkins Brothers, Shannon Est. 1, GC&SF sur, blk W-X, sec 27	*	lcn.
CULBERSON COUNTY—		
Miller Bros., Fee 1, PSL sur, blk 97, sec 21	*	2137
ECTOR COUNTY (North Cowden Area)—		
Sun, O. B. Holt, Jr. 1, flowing	35	4350
ECTOR COUNTY—		
Atlantic, T. P. Land Trust 1, sec 11, blk 43, twp. 1-s, T&P sur, pb to 4255 ft	*	4391
Amerada-Skelly, University 5-B, blk 35, sec 2, flwg	320	3596
Geo. Callahan, Connell 2, sec 1, blk B-16, PSL sur, flwg cas	500	3635
Gulf, Connell 7-B, flwg thru csg	440	3695
HOWARD COUNTY—		
California Co., Bell 7, T&P sur, blk 30, sec 12, pump	216	2766
Iron Mountain Oil Co., Reed 7, T&P sur, blk 30, sec 46, swab and flow	200	2774
JONES COUNTY—		
N. H. Martin & Sons, Dorsey 1, subdiv 5, Manuel Buene sur No. 197, flwg thru 2-in tubg	700	1986
McCULLOCH COUNTY—		
Mark Hill, Moore Bros. 1	¶1¼	690
PECOS COUNTY—		
Marathon Oil, Yates 6-D, flwg	200	1180
REAGAN COUNTY—		
Culberson & Irwin, Ringo 1, sec 1, blk H, L&SV sur, in lime	*	3430
RUNNELS COUNTY—		
J. S. Dennis et al, G. Wash 1	*	lcn.
UPTON COUNTY—		
T. P. Coal & Oil Co., J. F. Lane 17-A, GC&SF sur, sec 5, pumpg	531	2025
WARD COUNTY—		
California Co., J. F. York 18, sec 10, blk 34, H&TC sur, flwg thru tubg	565	2535
Skelly, Citizens Nat'l Bank 1, sec 40, blk 34, H&TC sur, flwg thru tubg	85	2680
S. A. Thompson, Johnson 3-B, sec 9, blk 34, H&TC sur, flwg thru tubg	1685	2550
West Texas Oil & Royalty Co., University 1-C, sec 6, blk 16, University Lands, pumpg	70	2670
WINKLER COUNTY—		
Fox & Butler, Brown & Altman 2, sec 6, blk B-5, PSL sur, flwg thru tubg	625	3195
Mid-Continent, Howe 3-A, sec 12, blk 26, PSL sur, flwg thru cas	800	3018
Sayre Oil Co., Howe 5-B, sec 12, blk 26, PSL sur, flwg thru tubg	700	2997

*Failures; †Junked; ¶Million cu. ft. gas.

Howard County, two; and Crane, Culberson, Jones, McCulloch, Pecos, Reagan, and Upton Counties, one each.

During the week 22 new locations were made: four in Winkler County, three each in Howard and Pecos Counties; two each in Ector and Ward Counties; and one each in Fisher, Gaines, Glasscock, Jones, Kimble, Mitchell, Tom Green, and Upton Counties. That in southeastern Kimble County was interesting, being a rank wildcat. It is Forest Development Corporation's L. D. Stapp 1, J. A. Wells Survey No. 682, Abstract 741, 660 feet south of the north line and 1866 feet east of the west line of the survey, within block N, G.H.&S.A. Railway Company subdivision. It is near the center of a 30,000-acre block acquired from J. D. Collett, Fort Worth, and is scheduled as an Ordovician test to go to 4000 feet. It will be spudded soon. The location is about 22 miles east and slightly south of Junction.

Late last week it was expected that deepening would be ordered on Wilcox Oil and Gas Company's Mrs. James Patterson 1, Western Kimble County wildcat, which had a showing of dark oil in brown and gray lime from 3677 to 3682 feet, believed to be in the bend, Basal Pennsylvanian. The test is near Roosevelt in northeast corner of Section 1, Abstract 915, T. & P. Railway Survey. Its elevation is 2207 feet. The wildcat is intended to go to 4000 feet to test the Ordovician.

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
L. T. Burns, G. A. Lauster et al 1	*	1190
Cato Bros., J. H. Turbeville 2	2	1018
Harry Hines et al, Archer Co. 1	*	1034
Huggins Oil Co., Ford 6	15	1000
Maxson & Panhandle, F. C. Green 39-B	4	1090
Panhandle Refining Co., H. O. Prideaux 9-F	2	686
Rathke Oil Co., L. F. Wilson Est. 1	5	619
L. F. Wilson Est. 5	*	610
Shappell Oil Co., J. H. Turbeville 1	*	1052
Wichita Prod. Co., W. D. Pace 1	20	1296
BAYLOR COUNTY—		
Cross and Petroleum Producers Co., Portwood 24-D	750	1365
Duncan et al, J. Schramm 1	*	1658
Petroleum Producers, Portwood 6-H	250	1365
Portwood 7-H	450	1348
Portwood 8-H	525	1368
Ray & Standifort, Portwood 13-C	650	1352
Portwood 14-C	1000	1355
CLAY COUNTY—		
R. J. Brown et al, B. T. Gault 1	*	475
W. C. Chapman et al, C. J. Shumake 1	*	1404
Metzner & Burns, Thornberry 11	*	377
COOKE COUNTY—		
Bridwell Oil Co., J. Fisher 1	*	1622
Fain McGaha Oil Corp., J. W. Chaffin 5	*	1087
Hudspeth-Harvey-Bass, F. J. Trubenback 2	165	895
F. W. Merrick Drilling, Inc., J. Hess 3	50	898
A. Knabe 10-B	377	810
H. E. Roberts et al, H. J. Schumaker 1	*	....
FOARD COUNTY—		
The Texas Co., L. K. Johnson, McAdams 9	182	3620
JACK COUNTY—		
G. A. Erikson et al, W. E. Hunts 1	3	505
WICHITA COUNTY—		
Boardman Bros., J. L. Jackson 3	25	699
Coleman & Cappock, Kemp & Kempner 25	5	860
Douglas Bros. & Johns, Waggoner Est. 7-B	10	905
W. B. Omohundro et al, W. L. Hodges 3	20	1655
H. Rugeley, Waggoner Estate 4	110	1108
The Texas Co., W. B. Honaker 70	25	1058
YOUNG COUNTY—		
L. T. Burns, G. W. Seibold Est. 1	*	rig
Clara Mae Douglas, Finch 8	40	653
Fresno Oil Co., J. M. Kirkland 5	*	855
L. G. Hawkins et al, J. M. Kirkland 6	*	lcn.
J. M. Kirkland 7	*	lcn.
Mook-Texas Oil Co., W. S. Cole et al 1	*	808

*Failures; †Junked; ¶Million cu. ft. gas.

ACTIVITY IS UP

Panhandle completions gain 50 percent

Amarillo, Texas. — The past week brought a 50 percent increase over the previous week in well completions in the Texas Panhandle. For the new week there were 15 tests completed, among them being only one dry hole, a 5700-foot test in Randall County. The 14 productive wells included two gas producers, the remainder being oil wells. One of the gas wells was in Carson County, and the other in Hutchinson County.

Of the 12 oil wells completed during the week, eight were in Gray County, and the other four in Hutchinson County. For each of those counties, the number of new wells was higher than in the previous week, when Gray County furnished seven new oil wells and Hutchinson County supplied one oil well.

COMPLETIONS HIGH

Operators in North Texas complete 36 wells

Wichita Falls, Texas.—Drilling activity has continued at a comparatively high level in North Texas. During the past week the district furnished 36 completions, compared with 47 the previous week.

Of the 36 tests finished last week, exactly two thirds were oil producers, while the other third were dry holes.

Baylor County continued a leader in the number of oil producing wells completed, in consequence of the substantial activity in the Portwood pool. But the six new Baylor County oil wells were equally in number by the productive completions of Archer County and Wichita County. Meanwhile, Cooke County furnished three oil wells, and Foard, Jack, and Young Counties supplied one each.

The 12 dry holes for the week included four in Archer County, three in Clay County, two each in Cooke and Young Counties, and one in Baylor County.

TEXAS PANHANDLE

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Texoma Natural Gas Co., Mineral Investment Corp. 1	¶11	2780
GRAY COUNTY—		
Abeline Oil Co., Webb-Cambrian 5	230	2584
Danciger O&R Co., Byrum 5, pb to 3267 ft	358	3315
Gulf, Worley A-9	318	2940
P. Hoffman, Finley 8	486	3058
Sinclair Prairie, Smith 2	692	3279
Stanolind, Cobb B-7	586	3330
Waggoner 4	617	3292
The Texas Co., Harrah 7	390	3252
HUTCHINSON COUNTY—		
Barnsdall, Lewis 1	712	3008
International Pet. Corp., Lewis-Badger 14	600	3004
Martex Pet. Corp., Pitcher 1	425	3190
Phillips Pet. Co., Eagle 1, owdd.	¶9½	3061
Skelly Oil Co., P. H. Jamison 1	580	2868
RANDALL COUNTY—		
Woolsey & Devore, Oxnard 1	*	5700

*Failures; †Junked; ¶Million cu. ft. gas.

191 TEXAS PERMITS

Austin.—The Texas Railroad Commission last week approved permits for the drilling of 191 new wells in the state, 37 less than were allowed the week before.

East Texas operators obtained 59 of these permits, more than went to any other district. There were 26 in Rusk County, 23 in Gregg County, five in Smith County and five in Upshur County.

North Texas operators listed 36 permits with 21 in Wichita County and nine in Baylor County. In West Central Texas there were nine permits allowed.

Southwest Texas listed 22 new wells and there were 18 in the Gulf Coast District.

The Panhandle reported 22 permits with 10 in Gray County, and there were 20 in West Texas.

Only five permits in the entire East Central Texas district were reported.

GET INJUNCTION

Houston.—Lone Star Refining Company obtained a temporary injunction here in a three-judge federal court September 19, that restrains the Texas Railroad Commission from interfering with the movement of 127,000 barrels of oil in the East Texas field. The commission had ruled that the company must make up 127,000 barrels of oil because of a previous shipment of this amount made under tender allegedly obtained by trickery. The court decision was that as long as the actual 127,000 barrels of oil involved in the improperly procured tender had shipped that additional or other oil could not be held as the penalty. The court also took to task the Railroad Commission for writing laws, which it said the commission did not have the right to do.

ITALIAN SHIPMENT

Corpus Christi. — The Americano, Italian tanker, sailed from the port of Corpus Christi September 17 loaded with 80,000 barrels of Mirando type crude purchased from the Corpus Christi Crude Oil Company for points unknown.

According to Capt. F. Garginlo, the orders were sealed with instructions to be opened at sea. It is known that the ship is headed for Gibraltar, but the unloading point was unannounced. Another Italian tanker, Theresa Odero, is scheduled to dock in October for a cargo of oil.

Dimmit Wildcat

WATCHED BECAUSE OF ITS IMPORTANT LOCATION

SOUTH TEXAS

WEEKLY STAFF REPORT

San Antonio. — Although its first showings failed to establish oil production, Diamond Half Oil Company's A. Eardley Estate 1, wildcat in the northwestern corner of Dimmit County, has attracted much attention to the important lower Balcones fault zone. It gives promise of developing production on the Chittim anticline.

The well drilled two feet of sand at 1715-17 feet and attempted to blow out. A charge of 200 sacks of commercial mud was insufficient to kill the well, but a second application of the same quantity of special mud was sufficient to control the test, which threatened to break loose for about 24 hours.

Cored three feet deeper to 1720 feet only part of the core was recovered, but that showed only about three inches more sand and the remainder shale. The test is being drilled deeper.

It is in the Navarro, the horizon being topped between 1125 and 1200 feet, determinations not being definite. This gives a differential of more than 500 feet between the top of the horizon and the sand, while the prospective sands are expected much deeper. Comparing with the Pearsall field in Frio County, where the Navarro section is about 1000 feet thinner, the oil sands there are not encountered at less than 800 feet below the top of the Navarro.

The well is located in the northwest corner of a 210.25-acre tract in the R. G. Morgandale survey, No. 6, Abstract 1322, 5½ miles northwest of the town of Carrizo Springs.

The well is on a well defined structure, worked out largely on a deep swing in the Carrizo-Wilcox Contact. It likewise is high on the Chittim anticline, running northwest-southeast through the Chittim field, Maverick County, about 35 miles to the northwest. The Humble Oil & Refining Company drilled a well in the vicinity of this test several years ago which had several interesting showings, but which finally was abandoned at 5008 feet.

The geology was worked out by L. B. Snider and Grady Kirby. The block was taken by Diamond Half Oil Company (H. H. Weinert Interests of Seguin). Spreads were sold to General Crude Oil Company, Magnolia Petroleum Company, The California Company, Humble Oil & Refining Company and others, as well as acreage being retained by those directly interested in the development of the block. J. A. Hartmangruber, drilling contractor, is drilling the well with a large electric rig.

The importance of this well, if finally completed as a producer is that it will open first production in Dimmit County, as well as further extend the trend of Cretaceous play through the heretofore dormant district to the southwest of San Antonio. The Chittim anticline long has been looked upon as a favorable spot for production, although the only production developed has been in the Chittim field, where several gas wells in the Glenrose formation below 5000 feet are spraying a limited amount of very high gravity oil. The well also is on a southwest trend from the production recently established by Amerada Petroleum Corporation in the Pearsall district of Frio County.

Amerada Petroleum Corporation's W. H. Smith 1, Buda lime producer in Frio County, treated with 3000 gallons of acid under pressure for two hours, after which production was restored. The well finally started flowing and after building up pressure, it put out 805 barrels of oil in 27 hours through various sized chokes, none larger than one inch. Opened on one-inch choke on tubing, the well made as high as 50 barrels per hour.

Midland Oil Company has started rigging up on a new test to be drilled about two miles northeast of the Pearsall Navarro sand production. It is Halff and Oppenheimer 1, 330 feet from the southeast and southwest lines of southeast half of Section 11, John Gibson Survey. This well will provide a great deal of information as to the structure to be found in this new field.

Still farther northeast and updip from this field, W. D. Bacon et al's Burns 1 has been spudded.

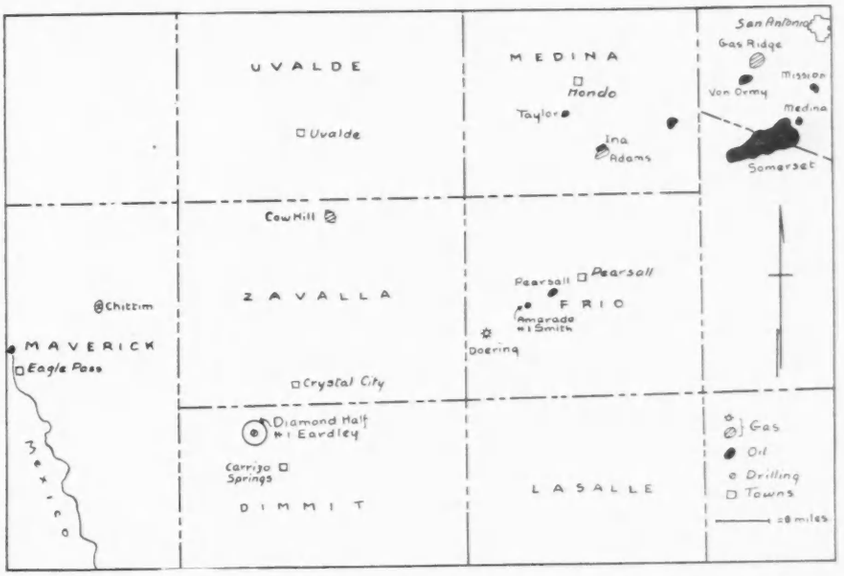
EXTEND SAMFORDYCE

East and west outposts are producing

San Antonio.—Hidalgo County celebrated its first anniversary as an oil producing district September 20. The event includes a banquet with Otto Woods and Ben King, discoverers of the Samfordyce field, as honored guests. Approximately 100 members of the industry were feted at the celebration, which was held in Mission.

The year brought the drilling of more than 100 tests for oil and gas in the county, including the discovery of three fields, ranging from 2800 to 7500 feet. Nearly 90 producing oil wells have been completed in the three fields todate and none of them are definitely defined in all directions.

The Samfordyce field was carried further west into Starr County during the week through the completion of Barnsdall Oil Company and Phillips Petroleum Company's Yturri Land and Cattle Company 1, Porcion 100, and 660 feet northwest of nearest production. The well gauged 112 barrels per day through 5/32-inch choke on tubing, showing working pressure of 200 pounds and casing pressure of 500 pounds. It is producing through perforations at 2798-2805 feet. On a short test, it flowed 34 barrels per hour through ¼-inch choke, but is estimated as high as 150 barrels per hour through



Map shows new producing district of Southwest Texas rapidly coming into importance. Diamond Half Oil Company's Eardley Estate 1 in Dimmit County and Amerada Petroleum Company's W. H. Smith 1 in Frio County are indicated.

open tubing, however, no full gauges were made.

H. J. Porter staked an important location in his Garcia Land and Cattle Company 1, 915 feet from the south line and 330 feet from the east line of a 60-acre lease in Porcion 100, 1425 feet northwest of present outpost production.

Cortez Oil Company added to the east side of the producing area through the coring of an excellent sand section in F. B. Guerra 1, located 1200 feet north of the Military Highway and 230 feet east line of Share 12, Porcion 41. It has gas sand 2706-53 feet, shale 2753-58 feet and oil sand 2758-65 feet. A drill stem test at 2760-65 feet netted 15 fourbles of oil in 15 minutes and casing has been set.

Union Sulphur Company did not do so well in its American Rio Grande Land & Irrigation Company 4, located in Lot 1, Block 99, about 1½ miles southwest of the discovery well of the Mercedes field, Hidalgo County. It is at a total depth of 7757 feet. Casing was perforated at 7741-56 feet, showed lots of salt water and a rainbow of oil with some gas. It is being plugged back to be perforated around 7590 feet for further tests.

Same company is coring below 7350 feet on its fifth well on this block.

Ben C. Barnett completed a deal with the County of Hidalgo for the lease on a seven-mile strip, ranging from 200 to 300 feet wide, being the Hidalgo County flood control system. The property involved in the deal extends through the heart of the present proven portion of the Mercedes field and is within 400 feet of a producing well. The transaction involved the payment of $5.00 per acre annual rental. It carried the regular one-eighth royalty plus an overriding royalty of 1/24th. The gas royalty will be a straight one-sixth. It also included a $1.00 royalty for all sulphur produced.

Zapata Wildcat

Humble Oil & Refining Company apparently has planned to make E. Dominguez 1, southwestern Zapata County wildcat, a real deep test. It is drilling ahead after setting a string of 9⅝-inch casing to 4936 feet.

The well is located 12,785 feet from the northeast line and 1320 feet from the southeast line of Porcion 31 and is on what is referred to as the Ranchito structure. It has a number of oil and gas sands, including a rather heavy section in the Mount Selman zone ranging down from 2040 feet, where it showed oil, gas and salt water.

S. R. & C. Oil Corporation is drilling a deep test in the Escobas field, being Trevino 15-A, now making hole at 1736 feet in shale. It is 800 feet from the north line and 200 feet from the west line of Block 8, Section 66.

Kill Bee Wildcat

GAS WELL BROUGHT UNDER CONTROL AFTER BLOWING OUT

San Antonio.—George M. Church's J. C. Woods 1, Bee County wildcat, was killed September 20 after blowing out September 19 and running wild from 5834 feet in the Conroe sand. It was showing an estimated 35,000,000 to 50,000,000 cubic feet of gas and a slight spray of distillate.

The well was running liner when it started heaving and before it could be controlled it blew out.

The well topped sand at 5810 feet several weeks ago, and after drilling in four feet to 5814 feet, it blew out, but was killed after 1000 sacks of commercial mud had been pumped into the hole. Casing was set on bottom and the hole cut ahead to its present depth of 5834 feet.

The well is located in the northeast corner of the tract, J. M. Ryan Survey, and is about 3½ miles southeast of Beeville.

The remainder of Bee County reported routine drilling in the fields, producers being reported in Caeser, Dirks and West Tuleta areas.

Littlejohn et al's B. Borroum 1, one-half mile northwest of the Rutledge pool, is a failure after showing salt water in the Pettus sand at 3327-47 feet and in the Yegua sand at 3460-66 feet.

Water In Duval Wells

Two Duval County discovery oil wells have started making considerable salt water with the oil and one is being deepened. Efforts will be made to recomplete the other.

Marzo Oil Company's Hagist 1, Section 269, just northeast of Eagle Hill field, is standing 1700 feet in fluid, 75 percent of which is said to be salt water, the remainder oil. It is in the upper Government Wells sand at 2116-21 feet.

Stanolind Oil & Gas Company's Ira G. Yates 1, south offset to the discovery gas well in the Labbe field, has been killed at 2465 feet after making too much water and is being drilled ahead to the Government Wells sand. It produced about 60 barrels of oil and 100 barrels of salt water per day before deepening. As last reports, the well was below 2600 feet.

Seven Sisters field provided several more excellent flowing wells during the week. This area is becoming one of the most prolific spots along the Government Wells trend. Loma Novio also contributed several producers.

Victoria County

Further efforts are being made to establish production in The Texas Company et al's J. J. Warden 1, 12 miles south of Victoria in Victoria County. It drilled to a total depth of 5629 feet, plugged back to 4200 feet and is now in sidetracked hole just below 4400 feet. It will recore a section of sand at 4488-4502 feet, which showed gas and oil saturation, but which showed for a gas well when a drill stem test was run.

Special survey work is to be done on this well, including photographing of hole for information on dips, etc., possibly as a key to drilling of additional tests on the block.

The well is in the Edward McDonough League, and is about midway between the Coletto Creek and McFaddin fields.

Sun Oil Company finally completed J. J. Marek 1, SA & GN Survey No. 9, southwest of the Placedo field, Victoria County. The well flowed at the rate of 4½ barrels per hour on a test of several hours, and showed a tubing pressure of 150 pounds and a casing pressure of 500 pounds. It is at a total depth of 4777 feet with casing set at 4757 feet.

In the Coletto Creek field, American Liberty Oil Company was washing in Machalec 2, R. Manchola Grant, late in the week. It is bottomed at 2867 feet, casing set at 2846 feet. The well looks like an excellent producer.

Port Lavaca Disappoints

Disappointments were again in order in the Port Lavaca field of Calhoun County with several wells failing to find production in the regular sand.

Crown Central Petroleum Company's Wilson 1, was coring in shale at 6246 feet, while Halliburton Oil Producing Company's D. Burton 4 was coring salt water sand at 6742 feet.

Steinberger Petroleum Corporation's A. Hartman 1 tested 17 fourbles of oil, 80 pounds pressure through one-quarter and three eighths-inch chokes in 20 minutes from 6218-40 feet and set casing at 6218 feet. Sand was topped at 6221 feet.

The Texas Company's W. A. Shofner 2 cored sand and ran drill stem test 6190-6224 feet which showed 300 pounds pressure and 150 feet of mud cut with gas in 10 minutes, the test being made through one-half and three-eighths-inch chokes. It is coring deeper.

ENLARGE NEW FIELDS

Main and South Saxet get extension wells

San Antonio.—Further extensions to production in both the Main and South Saxet fields of Nueces County were established during the week through the completion of outpost tests. The week's completions included several large producers.

Violet Oil Company's J. W. Gallagher 2, ½-mile notheast of Magnolia Petroleum Company's Sanders 1 producer, is a large producer, but has little pressure. It swabbed for 16 hours, showing about 15 barrels of oil per hour, the fluid level remaining constantly above 1500 feet. It is bottomed at 4070 feet with casing set at 4060 feet. Gas lift is being installed preparatory to final completion.

This well is similar to the other two producers drilled, both by Magnolia Petroleum Company. Baldwin 1, discovery well, in the discovery sand at 3874-79 feet, has been given a potential gauge after pumping stroke changed. In 24 hours, the well showed 802½ barrels.

Just south of Magnolia Petroleum

Company's Sanders 1 and north of the discovery well, Magnolia Petroleum Company's Baldwin 3 is ready to drill plugs after showing for a producer at 3872-76 feet. It showed 520 feet of oil in 15 minutes through ¼ and ⅜-inch chokes. Baldwin 2, about one third-mile southwest of the discovery well, is drilling in shale and sand below 5046 feet.

Nearly three quarters of a mile northwest of production in the main Saxet field, Richardson and Thomas' Page Brothers 1 is holding considerable interest. After showing only mud on a drill stem of sand at 4740-46 feet, it has been carried ahead.

A. F. Holliday's Hutchins and Stillwell 2, which had considerable trouble reworking at 4876 feet, finally has been completed jetting 35 barrels per day. It is expected to improve as it is produced. Same operator's Smith 2-B in the sand at 4720-24 feet, is one of the largest wells thus far completed in the field. It gauged nearly 20 barrels per hour through 3/16-inch choke, showing tubing pressure of 750 pounds and casing pressure of 1000 pounds. Opened to ¼-inch choke, it increased its flow to better than 50 barrels an hour with an indication of going even higher.

Holliday's Smith 2-A, discovery well of a new deep sand in the field, has been turned into storage. It is making about one barrel of high gravity oil per hour with a large volume of gas through 3/16-inch choke, showing equalized pressure of 2275 pounds. Sand is logged at 5785-92 feet.

Several new producers were reported in the 4800-foot sand. Houston Oil Company's Morgan 5 gauged 572 barrels per day through 5/16-inch choke from 4860-62 feet. Shell Petroleum Company's T. H. Isenee 1 has been completed at 4851-56 feet, but not gauged. The same applies to Southern Minerals Corporation's Ocker 6, in sand at 4867-72 feet. Warner Quinlan Company of Texas, likewise, has not gauged T. H. Isenee 1, in sand at 4860-65 feet.

Plymouth Active

Eight active operations in the Plymouth field of San Patricio County are adding additional territory around the edge of the present proven zone.

Heep Oil Corporation's Welder 9-E is preparing to perforate casing at 5645-50 feet, total depth 5651 feet. Welder 2-F is making hole below 5100 feet.

Magnolia Petroleum Company is making a drill stem test at 5670-73 feet in Corpus Christi State Bank 2, south outpost well.

Plymouth Oil Company's Welder 10-C, which has given considerable trouble with excessive gas pressure, is recompleting at 5648 feet. Welder 13-C is being completed at 5496-5512 feet. Welder 14-C is drilling at 5577 feet. Welder 15-C has spudded and set surface casing, while Welder 16-C is rigging up.

Lake Charles.—There were five completions along the Louisiana Gulf Coast during the past week. Of the five completions there were three producers and two failures. The initial production of the three producers was 2175 barrels daily.

ORDOVICIAN TESTS

San Antonio.—Several new Ordovician test locations have been made in the Southwest Texas portion of the Edwards Plateau. They bring the total activity to the greatest figure in the history of the area.

Auld and Evans have taken a block formerly held by the Phillips Petroleum Company and have located Heffner 1, 660 feet from the north line and 300 feet from the east line of Section 13, BS & F Survey, Kerr County. Jeff Love and Eastland Oil Company's Jeff Love 5-E, Section 1594, in the Love Ranch area, same county, is to be deepened from 5625 feet as soon as casing is lowered.

Forest Development Company's Stapp 1, NE portion Section 682, Kimble County, is on a block of 32,000 acres originally held by J. D. Collett. Wilcox Oil & Gas Company's Patterson 1, in the northeast corner Section 1, D. & P. Ry. Survey, same county, is showing considerable free oil in the Bend lime at 3677-82 feet, and is shut down for orders.

In Real County, H. J. Heartwell et al's J. J. Haby 2, Section 175, is showing considerable oil in 10 feet of sand just below 3200 feet and will be shot with 50 quarts before testing. These operators have plans for the drilling of a well on the Hanze tract about two miles east of this location, but in the same county.

Bandera County has two active wells, Plateau Oil Company's R. G. Garrison

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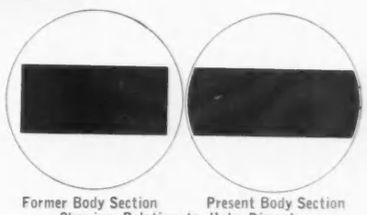

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1, Section 506, is down 4257 feet, while Palm Winn Oil Company's Watson 1, Section 71, is reported at 2035 feet with casing trouble.

KIMBRO PRODUCTIVE

San Antonio. — Production finally has been established in the Kimbro serpentine plug in Travis County through the completion of a 40-barrel per day well in W. F. Billingslea et al's Lungrin 1, in the west corner of a 40-acre tract, block 17, Kimbro Survey. The well topped serpentine at 660 feet and is bottomed at 670 feet.

There have been a number of tests drilled in the immediate area, which was located through the use of magnetometer, but all of them were abandoned as failures after showing nothing or considerable water with the oil.

J. E. Robertson's J. F. Smith 1, in the same survey, is showing considerable oil from serpentine at 700-15 feet, but is not fully complete.

JACKSON HEARING

Austin. — Twenty-acre spacing for the new Mauritz field in Jackson County was urged by Shell Petroleum Corporation at a hearing before the Texas Railroad Commission last week. This plan was opposed by Sinclair Prairie Oil Company, which favored spacing 330 feet from lease lines and 660 feet between wells.

Hiram King, appearing for Sinclair Prairie Oil Company, suggested that the Railroad Commission might better install the latter system, permitting operators to work out a development plan which would result in only one well being drilled on each 20-acre block. He advanced the opinion that this would permit more uniform spacing should the commission determine later that a well on 10 rather than one on 20 acres was essential to proper development of the field.

Paul B. Hunter, Shell Petroleum Corporation geologist, told the commission that only one of the four wells drilled in the area was a commercial producer. This producer was the Shell's Combs 1, located in the James Cummings Survey. This well came in for 633 barrels on August 18, producing through a quarter inch choke. Twenty feet of screen was set in the hole bottomed at 3650 feet. Seven inch casing was set at 3630 feet, and the well produced with a gas-oil ratio of 550:1.

Paleontological correlation of the four wells indicated that the sand conditions are highly uncertain. Two of the dry holes were drilled below 6000 feet, and in each instance the base of the Catahoula, the local marker most generally used, was found much higher than in the discovery well.

Sand in the Combs well is streaked with shale and bottomed in shale, which precluded any assumption as to the thickness of the sand, particularly if the lower shale proves to be another stringer.

Hunter said that he had formed no opinion as to the possibility of the presence of production in lenticular sands, but seemed inclined to believe that the conditions in the producing sands would correspond generally to those found at Refugio.

Because gravel beds are found as deep as 700 feet, Shell engineers urged that 1000 feet of surface casing be required to insure full returns of mud.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BASTROP COUNTY—		
Joe Mills, American Nat'l Bank 1, R. Gage sur (n Cedar Creek)	*	1918
BEE COUNTY—		
Mills Bennett, Mrs. Wm. Rapp 1, C. A. Dugat sur (Dirks)	450	3924
Commodore Oil Co., J. J. Grissom 4, McEarly sur (Caesar)	198	3039
Humble, J. Schellenberger 4, sec 7, Uranga Gr (Dirks)	360	3883
Illinois & Swiger, Mrs. Wm. Rapp 1, C. A. Dugat sur (Dirks)	648	3870
Luling Oil & Gas Co., J. T. Hudman 3-A, Chas Baker sur (Caesar)	525	3064
BEXAR COUNTY—		
Joe Deupree, R. S. Coffey 1, 910 ft el, 965 ft sl of 420-ac tr, F. Rodriguez sur	†	303
Richcul Oil Co., Karl Weilbacher 1, S. Jett sur (Von Ormy)	3	710
Trawalter & Umburn, A. J. Trawalter 11, S. Jett sur (Von Ormy)	5	643
CALDWELL COUNTY—		
R. S. Bolling et al, C. F. Robertson 1, J. A. Neill sur (Branyon)	25	2230
Trail et al, A. B. Tiller, G. Hinds sur (Salt Flats) orig rept abnd, reinstate & acidize	170	2605
DUVAL COUNTY—		
Allen & Morris, J. T. Dinn 1, NW se sec 665 (Kohler)	*	3853
Atlantic Oil Prod. Co., T. F. Welder Hrs. 2-A, ne sec 385 (Seven Sisters)	725	2514
Bridwell Oil Co., M. C. Hubbard 2-B, sec 75 (Loma Novia)	216	2691
Dulce Oil Co., R. Serna, Jr. 2, nw nw sec 384 (Seven Sisters)	500	2490
Humble, Serna 1-B, sec 384 (Seven Sisters)	375	2482
J. F. Welder Hrs. 2-D, sec 72 (Loma Novia)	*	2725
Magnolia, C. W. Hahl 4-B, sec 76 (Loma Novia)	1000	2646
Plymouth Oil Co., Cuellar 1, sec 123 G&M Ry sur	†	1971
Shell, M. C. Hubbard 5, sec 77 (Loma Novia)	375	2743
GUADALUPE COUNTY—		
W. A. Scrutchin, A. H. Smith 1, 1350 ft nel, 150 ft sel 34-ac tr, J. B. Cowan sur	*	765
LAVACA COUNTY—		
Wheelock & Collins, A. Pohl 1, 2400 ft w and 1500 ft n from sw cor H. Kuehne sur, but in Moses Wooten sur	*	5002
McMULLEN COUNTY—		
Bussa Oil Co. of Texas, F. B. Horton 1, c e nw s 640-ac James A. Jean sur, No. 29	*	1754
Carruth & Hagan, Gus Lange 1, 330 ft nl, 1900 ft wl 231-ac tr, M. Hely sur	*	1405
John Gibson, G. C. West 1, 150 ft el, 1200 ft nl lot 1, blk 4, sec 14, H&TB Ry sur No. 1092	*	465
Lucky Strike Oil Co., H. L. Lark 1, blk 114, Lark sub, E. W. B. Scrugham sur (Calliham)	16	1042
L. D. Ormsby, Griffith 5, Osborne sur No. 50 (n Jacob)	*	950
NUECES COUNTY—		
A. F. Holliday, Hutchins-Stillwell 2, sec 34, H. B. Sheppard sub (Saxet)	35	4876
F. J. Smith 2-B, Sheppard sub (Saxet)	450	4724
F. J. Smith 2-A, C. E. P. I&N sur (Saxet) opens new deep sand	25	5792
Houston Oil Co., Rand Morgan 5, sec 7, range 5 (Saxet)	675	4862
REFUGIO COUNTY—		
United Prod. Co., M. F. Lambert 21, blk 10, Carr & Connell sur (Greta)	275	4403
MILAM COUNTY—		
Minerva Ref. Co., Shelton 3, W. M. Allen sur (Minerva-Rockdale)	3	1558
SAN PATRICIO COUNTY—		
Plymouth Oil Co., E. H. Welder 11-C, sec 45 (Plymouth)	810	5651
E. H. Welder 12-C, sec 49 (Plymouth)	450	5648
STARR COUNTY—		
Barnsdall & Phillips, Yturri Land & Cattle Co. 1, por 100 (Samfordyce)	1500	2806
Henshaw & Roberts, Seabury et al 2, tr 256, por 38 (Samfordyce)	400	2809
H. M. Reed, Doyno & Chatfield 7, blk 3, tr 21, por 80 (Rio Grande City)	*	1450
W. W. Zimmerman, Frank Doyno 2, blk 1, tr 77-A, por 81 (Rio Grande City)	50	1458
TRAVIS COUNTY—		
W. F. Billingslea et al, Lungrin 1, 330 ft nwl, 150 ft swl 40-ac tr in blk 17, Kimbro sur (Kimbro) opens new field)	40	670
VICTORIA COUNTY—		
Gulf Prod. Co, Keeran 7, M. de Leon sur (Keeran) owdd, former td 5400 ft	350	5856
Martex Oil Co., Mitchell 1, E. Benevides sur, ¾ mi se Placedo field	*	6050
Sun Oil Co., J. J. Marek 1, SA&NG Ry sur No. 9 (Placedo)	108	4777
WEBB COUNTY—		
Magnolia Pet. Co., Benavides 4-G, blk 223, Hale sub, Arispe Gr (Cole)	350	2770
J. I. O'Hern, S. Benavides 2, blk 219, Hale sub, Arispe Gr (Cole)	3600	2754
WILLIAMSON COUNTY—		
H. F. Goff et al, A. Klotz 1, 220 ft sl, 300 ft el 100-ac tr, P. Cartwright sur (Byersville)	*	1409
B. E. Pierce, C. Matteck 1, H. White sur (Byersville)	300	....
ZAPATA COUNTY—		
Glasco et al, A. D. Haynes 1, blk 7, Haynes sub, Comitas Gr (Comitas)	*	180

*Failures; †Junked; ¶Million cu. ft. gas.

TEXAS GULF COAST

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BIG CREEK—		
Gulf, Davis 64	360	3840
Tran State Oil Co., Wheat 1	*	3690
BOLING—		
Texas Co., Taylor A-13	150	3335
CONROE—		
South Gulf Oil Co., Becker 3	542	5074
DICKINSON—		
Humble, Bayou Dev. Co. 1	562	9080
FANNETT—		
Gulf, Thomas 17	600	4010
HIGH ISLAND—		
Stanolind, Taylor 1-B	525	4720
HULL—		
Gulf, Phoenix Dev. Co. 109	350	3730
LOUISE—		
Pure, Roberts 1	19	5166
MANVEL—		
Texas Co., Houston Oil Field Association 7, (wo)	12	4007
Uscan Oil Co., France Estate 1	*	5744
PORT NECHES—		
Texas Co., Stark 5	192	3760
RACCOON BEND—		
Humble, Payne 16	440	4095
SARATOGA—		
Margo Oil Co., Hooks 1	*	2478
SOUTH HOUSTON—		
Stanolind, Fred Burkey 1	204	4062
THOMPSON—		
Humble, Gubbles 4	75	5389
CHAMBERS COUNTY—		
C. B. Bunte, Simon 1, six mi ne of Anahuac field, T&NO sur, sec 33	*	7788
LIBERTY COUNTY—		
A. L. Maxwell et al, Hincliff 1, ne of Cleveland, H&TC sur, sec 105	*	5574
MONTGOMERY COUNTY—		
Geo. E. Smith, Delta Land & Timber Co. 1, Willis area, McBride sur	*	4228
Mid Tex Oil Co., Delta Land & Timber Co. 1, Willis area, R. T. Oliver sur	*	4026
WASHINGTON COUNTY—		
C. J. Lass et al, T. Weinert 1, se of Burton, T. T. Bordan sur	*	3755

*Failures; †Junked; ¶Million cu. ft. gas.

Watch Anahuac

OUTPOST TESTS PROMISING
IMPORTANT DEVELOPMENTS

WEEKLY STAFF REPORT

Houston.—Woodley Petroleum Company's Blanke 1, H. & T. C. Survey, Section 41, 1¾ miles northeast of R. A. Mason and Glenn H. McCarthy's R. M. White 1, Anahuac field, Chambers County, was being watched closely at the close of the past week. It was drilling in shale at 5035 feet, and would extend the Anahuac field northeast if productive.

The well is probably the most important well drilling in the area and will determine if the Anahuac field will be large in size and comparable to that of Conroe in Montgomery County.

Gulf Production Company's Knowles 1, north and east offset to R. M. White 1, was drilling at 7235 feet at the end of the week. It is 200 feet lower on the down through side of the fault than R. M. White 1. This well has definitely cut a fault, and proves that Humble Oil & Refining Company's productive acreage on the southwest side is on the up throw side of the fault. The fault is thought to be running in a northwest to southeast direction and north of Humble Oil & Refining Company's Engles 1.

Acreage to the northeast of the fault and in the area of Woodley Petroleum Company's Blanke 1 is wildcat acreage and for this reason the latter is regarded as one of the most important wells drilling in the field. The field to date has around 3600 productive acres. The same condition is believed to arise in the Anahuac field as that in the Manvel field, Brazoria County.

Gulf Production Company's Knowles 1 cored salt water sand from 7204 to 7207 feet but did not pick up the water level for the Anahuac field, which is found at 7141 feet. It is not known just how far the well will be drilled. Gulf Production Company has not announced any more locations for the area.

Humble Oil & Refining Company purchased a half interest in 580 acres surrounding Woodley Petroleum Company's Blanke 1 for a reported consideration of $300 cash and $300 out of oil per acre. The operators also purchased a quarter interest in the well which is now drilling and the 40 acres which the well is now located.

Humble Oil & Refining Company evidently is interested in the area on the northeast side of the down throw side of the fault, which was discovered by Gulf Production Company's Knowles 1, as the company has purchased considerable acreage the past two weeks. Humble Oil & Refining Company also has a location for M. Engles 5, which is located northeast of Engles 1, which is considered a flat well. With the drilling of Engles 6 it should be determined how the field is running in the eastward direction.

C. B. Bunte's Simon 1, six miles northeast of the Anahuac field, T. & N. O. Survey, Section 33, was abandoned in shale at 7788 feet at the end of the past week. The well at one time was one of the most important wells drilling along the Texas Gulf Coast. It was thought for a time that the well would be an extension to the Anahuac field, but was later found to be on an entirely different prospect. However with the drilling of Simon 1, it was found that the well has around 370 feet of solid sand with a few streaks of shale. Solid sand was found from 7370 to 7554 feet and salt water sand was found 7560 to 7741 feet. This indicated that if a structure is located in the area it may result in a new oil field. The C. B. Bunte well is located approximately six miles west of Winnie in Chambers County, where an exciting lease play has been in progress for some time with all major oil companies taking spreads.

Humble Oil & Refining Company's Clark 4, H. & T. C. Survey, Section 57, was reaming down to set casing September 20, at 7085 feet after topping the sand at 6900 feet.

Humble Oil & Refining Company's Middleton 5, west offset to Engles 1, was drilling ahead in shale at 6857 feet at the end of the week, after having a showing of gas from 6704 to 6756 feet. On a 14-minute drill stem test from the last mentioned depth a 950-pound pressure was shown. The test was made through a quarter-inch choke on top and bottom. The showing of gas is approximately 300 feet above the regular pay horizon for the Anahuac field. Middleton 6, southwest of Middleton 2, was drilling below 6604 feet and should be down to the producing horizon the coming week.

Sun Oil Company's White 2, west offset to White 1, in north Anahuac area, was down to 5766 feet in sand at the end of the week. A potential test was made of Sun Oil Company's White 1, during the past week. The well made 700 barrels per day through a quarter-inch choke with a tubing pressure of 830 pounds; casing pressure 850 pounds. The gas/oil ratio was 482 to 1.

Liberty County

A. L. Maxwell et al's M. P. Hincliff 1, two miles northeast of Cleveland, H. & T. C. Survey, Section 105, was abandoned at 5574 feet after plugging back to 5494 feet, where the drill stem stuck. The well had a showing of oil from 5434 to 5435 feet, and a salt water sand at 5556 feet. This well was running high for the district, and started a large lease play in the Keno area of Liberty County. It is reported another wildcat will be drilled in the area. This prospect is now being worked by several of the major oil companies with torsion balance and reflection seismograph. The prospect was discovered by sub surface geology.

In the Cleveland field, Liberty County, Gulf Production Company has made location for Kirby 11-C. It is 1034 feet north and 1400 feet east of the northeast corner of the J. Eldridge Survey and in the J. Pleasant Survey. It is 2000 feet from the nearest production and will be an extension test for the field.

Montgomery County

Two wildcats were abandoned in the Willis area of Montgomery County during the past week, which makes the area look disappointing. George E. Smith's Delta Land & Timber Company 1, two miles west of Mid Tex Oil Company's Delta Land & Timber Company 1, McBride Survey, was abandoned in salt water sand at 4228 feet. Mid Tex Oil Company's Delta Land & Timber Company 1, west of Willis, two miles southwest of Gholson Drilling Company's Parks 1, which made a small amount of gas and oil, R. T. Oliver Survey, was finaled in salt water sand at 4026 feet. Salt water sand was found from 3605 to 3649 feet.

Angelina County

Y. D. Spell's F. Thompson 1, 2½ miles north of Lee Tex Oil Company's Guissler 1, which made a small amount of oil and gas, J. William Survey, Angelina County, was running casing to test saturated sands which were indicated by an electrical logging device at 2471 feet. The sand is in the Carrizo formation.

DICKINSON EXTENDED

Good well enlarges south limits of field

Houston.—The Dickinson field, Galveston County, was extended 1000 feet south during the past week when Humble Oil & Refining Company completed Bayou Development Company 1 for 23 barrels per hour through quarter-inch choke from the deep sand at 9080 feet. Bayou Development Company 1 is the third well to be completed from the deep sand in the Dickinson field. Seven-inch casing was set at 9069 feet. It had 2600 pounds pressure on the tubing and 2700 pounds on the casing.

On a drill stem test from 8983 to 9080 feet the well showed 49 thribbles of pipe line oil and eight thribbles of mud. The drill stem test was made in 10 minutes through a quarter and three eighths-inch choke. The oil sand was topped at 9065 feet.

The extension test is located 375 feet south of the north line and midway between the east and west line of Lot 7 in the J. Sellers Survey.

Humble Oil & Refining Company has made location for San Leon 1. It is 1300 feet north from the north bank of the Dickinson Bayou and 100 feet east of the east line of the J. S. Jones Survey in the A. E. Edwards Survey.

Hastings Field

In the Hastings field, Brazoria County, Stanolind Oil & Gas Company's locations for three new additional wells

are: Drake 3, 330 feet north and 330 feet east from the southwest corner of 120-acre tract in H. & T. B. Survey, No. 36; Ford 2, is 330 feet north and 3092 feet west of the southeast corner of 199-acre tract in H. & T. B. Survey, No. 1; Williams 3 is 330 feet west and 119 feet south of the inside northwest corner of an 88.5-acre tract in A. C. H. & B. Survey No. 1.

South Houston Field

The third producing well for the South Houston field, Harris County was completed. Stanolind Oil & Gas Company's Fred Burkey 1, H. & T. B. Survey, No. 5, center of lot 15, block 105, drilling district 26, was completed at 4062 feet for 204 barrels per day. The well was completed through a quarter-inch choke with 450 pounds on the tubing and 100 pounds pressure on the casing. The oil showed one percent wash water.

Stanolind Oil & Gas Company has made location for three additional tests in the field. The wells will be named after the drilling districts and the well numbers. Stanolind Oil & Gas Company's District 5, well No. 1, is located in the H. & T. B. Survey, No. 5 and is in the center of lot 2, block 7 townsite. Stanolind Oil & Gas Company's District 8, Well No. 1 is in the H. & T. B. Survey, No. 5, center of lot 16, block 32, townsite and Stanolind Oil & Gas Company's District 10, Well No. 1, H. & T. B. Survey, No. 5, center of lot 16, block 28, townsite.

Other Regions

In the Industry area, Austin County, J. S. Wheelis has made location for Knolle 1. It is 330 feet each way out of the south corner of 192-acre tract in the J. F. Pettus Survey, Abstract 78. Several of the major oil companies have taken spreads around the well.

C. J. Lass et al's T. Wienert 1, southeast of Burton, T. T. Bordan Survey, Washington County, was abandoned during the past week at 3755 feet after testing salt water. The well had salt water sand from 1905 to 2321 feet.

Skelly Oil Company was preparing to perforate 6⅝-inch casing in Cobb 3, Van Vleck field, at the end of the week after setting the casing at 8301 feet. The bottom of the hole is 8800 feet.

The same operator's Turner 1, south of the discovery well and the first of the three wells to be drilled on the block of acreage taken from Clark, which also included a $90,000 cash payment and a $75,000 oil payment, will probably be abandoned. At 7500 feet an electrical logging device was run and all sands showed salt water.

Sterling Oil & Refining Company's Jenek 1, East Bernard prospect, J. Scott Survey, Wharton County, was drilling at 8330 feet in shale at the end of the week and will be carried to 8500 feet then plugged back to test the 7863-foot sand which showed oil after an electrical logging device was run.

Navarro Oil Company's Scholeman 1, Mancha prospect, N. Mancha Survey, was drilling in shale at 7076 feet in the Upper Saline Bayou. The formation was found at 6919 feet.

Find Oil on Delta

TEST AT MISSISSIPPI RIVER MOUTH OPENS NEW FIELD

Lake Charles. — The Texas Company's Garden Island Bay 16, Plaquemines Parish, established a new oil field for the Louisiana Gulf Coast September 13, 1935, when it came in for 525 barrels per day through a quarter-inch choke from the Miocene formation at 4930 feet.

Not only is Garden Island 16 the discovery well for a new field, but it is the farthest south and also east producing well in the Louisiana Gulf Coast. The well is located at the mouth of the Mississippi River in Section 37-23s-33e, 80 miles southeast of New Orleans.

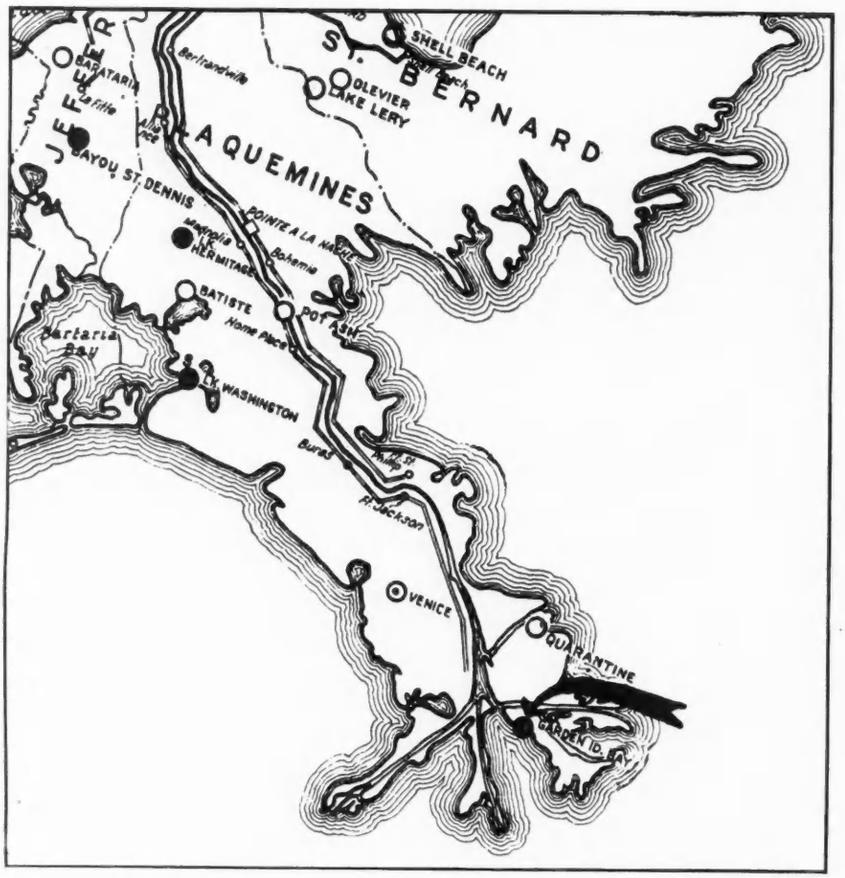
The well's flow of 525 barrels per day through a quarter-inch choke was made with a tubing pressure of 850 pounds and a casing pressure of 660 pounds. On a one-hour gauge the well flowed at the rate of 1750 barrels per day through a half-inch choke with 765 pounds on the tubing. The choke then was changed to a quarter inch. The oil is 37.2 corrected gravity.

The hole was drilled to 4930 feet, with the oil sand found from 4913 to 4927 feet. Five-inch casing was set at 4895 feet. On an electrical logging device the well showed 45 to 18 ohms and 60 millivolts in the above oil sand. Cap rock was encountered in this well, which is located on the northeast flank of the dome, at 3624 feet.

The oil will be barged from the new field up the Mississippi river to The Texas Company's refinery below New Orleans.

This field was discovered by refraction seismograph in 1928 by McCollum Exploration Company. It is considered a piercement type dome. There have been several gas wells completed around 900 feet, but Garden Island Bay 16 is the first oil producer on the dome.

Considerable difficulty was encountered in finding this dome and also in



Mississippi Delta, showing location of discovery well, The Texas Company's Garden Island Bay 16, Plaquemines Parish, Louisiana.

drilling wells in the area. The area at the mouth of the Mississippi River on the delta is marsh land and is considered "floating turf" and mats are built and sunk for foundations for the wells. An "oozing" formation is found for a great depth, which forces setting of considerable surface casing. Several of the wells that have been drilled in the field have cratered and the derricks have been lost due to the softness of the land. Also several of the wells have blown out.

The field is located in an area where an earthquake occurred two or three years ago and the delta was supposed to have slipped. The Texas Company has a solid block in the Garden Island Bay field and is only a quarter of a mile from the open ocean. The water is about two feet deep over the field and looks like an irrigated rice field with an occasional "mud lump" found protruding out of the water.

There are two other prospects located in the general area of the Garden Island Bay field. The Potash and the Venice prospects are located on the Mississippi delta.

Bayou St. Denis Extended

The Bayou St. Denis or Lafitte field, Jefferson Parish, was extended 1000 feet northwest during the past week when The Texas Company's Bayou St. Denis 2, came in for 2180 barrels pipe line oil per day through a ⅜-inch choke from 9640 feet. Sands showing oil were found from 9591 to 9640 feet. Seven and five eighths inch casing was set at 9575 feet. The well came in flowing the above initial production with 1260 pounds on the tubing. The oil tested 34 degrees gravity. After flowing for three days the well went dead due to packer trouble. The well is now being worked over.

The well is located 466 feet north and 1194 feet west of the southeast corner of Section 19-17s-24e. This well is the third well to be completed in the field by The Texas Company. No other locations have been announced for the new field.

Wildcat Work Increases

In St. Martin Parish, Tide Water Oil Company has made location and set 20-inch surface casing at 60 feet on Smede 1. The well is located 990 feet from the north line and east line of Smede 1000-acre tract in Section 57-11s-6e. The well is on a 4700-acre block. This well is creating considerable excitement along the Louisiana Gulf Coast and it is predicted by many as being a likely new oil field. Royalty is selling at $250 per acre base, and since the announcement of the location of the well over $70,000 has been spent for royalty. Harrison & Abercrombie drilled Barros 1, in Section 66-11s-6e, about five years ago to 6690 feet and while drilling the operators had five sands showing oil. This well is located on the new St. Martinsville Prospect.

To the north of the St. Martinsville prospect on the Henderson Prospect, The Texas Company abandoned St. Martin Land 7, at 8986 feet during the past week. The well had a slight showing of oil from 4400 to 4404 feet. The well is located State Plumb Bob 1, dry hole and St. Martin Land Company 6, dry hole. It is in Section 9-8s-7e.

Danciger Oil & Refining Company has made location for a wildcat well on the Slidell block in St. Tammany Parish. The well is located in the approximate center of the NW¼ of Section 26-8s-14e. The well will be known as E. F. Holdsworth 1. It has been reported from time to time that the operators were going to make a location on this prospect. The drilling of the well is reported to be commenced by September 23, 1935. Several major oil companies have contributed bottom-hole money.

Gillis Field

In the Gillis field, Calcasieu Parish, The Texas Company's Nickerson fee 1, in the north part of the field started showing salt water during the past week making approximately 50 percent while flowing at the rate of 420 barrels per day through a quarter-inch choke. The flow was reduced to 100 barrels per day through an eleven-sixty fourths inch choke and the well made 15 percent salt water. The next day the well went dead.

The same operator's Nickerson Fee 5, was making the same daily production as Fee 1, and was showing a large amount of salt water.

Union Sulphur Company has several wells in the field showing salt water and have drilled a 1500 foot test and are pumping the salt water into the hole.

The J. L. Johnston Well Testing Service, an entirely separate organization from the Johnston Formation Testing Corporation, has never been sued nor enjoined, and is now operating as it has for the past five years in the Gulf Border Territory.

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HOUSTON, TEXAS

Fight Rodessa Water

HAYNES WELL KILLED SECOND TIME AFTER PLUGGING BACK

WEEKLY STAFF REPORT

Shreveport, La.—Drilling of plug in seven-inch casing cemented at 5993 feet was begun Friday in O'Brien Brothers' Rodessa Oil & Land Company 1, NW SW 14-23n-16w, expected to be the next completion in the Rodessa field. Total depth is 6022 feet in Oolitic lime reported to have shown oil saturation. Elevation is 225.6 feet. This test logged top of anhydrite at 5051 feet, slightly lower on this contact than Haynes Production Company's Otwell 1, SE SE 15-23n-16w, slightly more than half a mile southwest. The latter well has been shut in after making a small percentage of salt water with oil production.

O'Brien Brothers' test is slightly less than one half-mile west of Haynes Production Company's W. B. Lawton 1, NE SW 14-23n-16w, the second oil producer of the field.

Four locations were announced in Rodessa. M. H. Marrs and associates of Shreveport will drill W. J. Hunter 1, SE NW SW 13-23n-16w, and R. W. Norton will drill S. M. Tyson 1, NWc 13-23n-16w.

One mile west of United Gas Public Service Company's I. L. Young 1, SE SE 21-23n-16w, R. W. Norton made location for Foscue 1, center NE SE 20-23n-16w. Lion Oil Refining Company made location for J. M. Wynn 1, NE SW 9-23n-15w, four miles east of the nearer oil well. This company bought 200 acres for $30,000 cash and $70,000 from production.

Haynes Production Company after killing Otwell 1 for the second time Thursday due to appearance of salt water, Friday was pulling tubing preparatory to drilling out all cement and liner and will make another effort to plug back to eliminate the water believed coming from bottom of the hole whose total depth is 6081 feet. It had been plugged back to 6023 feet before the last test.

Otwell 1, the week before had shown about 10 percent salt water along with oil production of 200 to 650 barrels per hour under chokes of different sizes, at 6081 feet. Last week was plugged back to 6023 feet and washed in Wednesday, September 18, and allowed to flow 208 barrels of fluid per hour through two-inch choke on tubing. After flowing less than 24 hours the well was again killed.

The amount of salt water in this period was placed at three percent and basic sediment four percent. The well had been drilled too deep originally. Three other Rodessa tests may be completed during the coming week. Pelican Oil & Gasoline Company's Sexton 1, NE SE 14-23n-16w, which was killed last week after a gas flow of 70 million cubic feet along with a small flow of oil, was deepened to 6063 feet and five-inch casing set at top of the liner at 5982 feet. United Gas Public Service Company's Thomas 1, NW NW 23-23n-16w, has reached 6039 feet in black shale after several cores showing oil were recovered and seven-inch casing has been cemented. The last seven feet of hole was black shale. This test is a quarter-mile south of Haynes Production Company's Lawton 1, Section 14-23n-16w, the second oil well of the field. Arkansas-Louisiana Gas Company's Teamer 1, SW SE SW 13-23n-16w, was running seven-inch casing at 6044 feet September 19 after reaching total depth of 6105 feet.

Considerable saving in cost of casing will result to operators in Rodessa by a new ruling made Friday by Dr. J. A. Shaw, director of the Minerals Division, Louisiana Conservation Commission. Dr. Shaw authorized Malcolm La Fargue, manager of the division's Shreveport district office, to permit Rodessa operators to set the second string of casing, ranging from 8⅝ to 9⅝-inch in chalk around the 2200-foot level instead of at top of the anhydrite around 5200 feet as previously required. The second string may be set at the 2200-foot level, provided sufficient cement is used to set satisfactorily the entire string. Operators have found that drilling is entirely safe under the new method.

Leasing continues in Cass and Marion Counties across the Texas line and in Columbia and LaFayette Counties in South Arkansas.

In Cass County west of Rodessa, American Liberty Oil Company has secured 230 acres from A. V. Lane of Dallas, Texas, and will drill a 6000-foot test at an early date. The consideration was $52,500 to be paid from production. The test is expected to be on the Rogers 160-acre tract, C. M. Robinson Survey.

Six miles west of the town of Linden, C. E. Murdock of El Dorado, Arkansas, has taken an option on a 12,000-acre block centering in Louanna Ward Survey. Earliest drilling obligation for a 6000-foot test is next August. There has also been considerable royalty trading in Cass County.

Four geophysical crews are still working in and near the Rodessa area. Gulf Refining Company's seismograph crew is working in the southeast part of Cass County. Stanolind Oil & Gas Company's seismograph crew is working in Cass County near the junction of the Louisiana-Arkansas line. The Texas Company's shooting crew is working between Kildare and Jefferson, and United Gas Public Service Company's shooting crew is working near Kildare. In Marion County, $16,000 was paid for a 160-acre tract in the G. Gerdis Survey.

In Columbia County, Arkansas, acreage is being bought by Tidewater Oil Company, Magnolia Petroleum Company, Lion Oil Refining Company, and several individuals. The prices averaged about $2 per acre and the acreage is situated in township 18, ranges 22 and 23. In LaFayette County, Arkansas, small amounts of acreage have been taken by Ohio Oil Company, Gulf Refining Company, The Texas Company, Magnolia Petroleum Company, and several individuals. This acreage is in townships 15, 16, 17 and 18, ranges 22 and 23.

NORTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH (Pine Island)—		
M. Rodgers, Muslow 5, 4-20n-15w.	30	2165
Shreveport Oil Corp., Caddo Levee Bd. 1, 8-20n-15w	¶20¾	2184
CALDWELL PARISH—		
Caldwell Drlg. Co., Luna Gore 1, 30-12n-3e	*	1300
MOREHOUSE PARISH—		
J. H. Gibson et al, Thomas 1, 16-22n-7e	*	2944
OUACHITA PARISH (Monroe)—		
Ark. La. Gas Co., Rea & Green 13, 34-19n-4e	¶2¾	2182
Carbons, Consolidated, Feasel 4, 31-19n-4e	¶2	2183
UNION PARISH (Monroe)—		
United Carbon Co., Jenny 1, 12-20n-3e	¶9	2156

*Failures; †Junked; ¶Million cu. ft. gas.

LINCOLN PARISH

Shreveport, La.—Lide & Greer last week were drilling anhydrite below 5000 feet in Fowler 1, NW SW SE 10-17-4w, a wildcat in Lincoln Parish in the North Louisiana Basin, seeking oolitic lime production similar to that at Rodessa. Anhydrite was logged at 4593 feet. The test is on a 6000-acre block assembled after geophysical exploration.

SOUTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CAMERON MEADOWS—		
Burton Sutton Oil Co., School Land 8	700	4011
DARROW—		
Humble, Gumble 3	*	5948
GARDEN ISLAND—		
Texas Co., Garden Bay 16	525	4930
HACKBERRY—		
Texas Co., State Hackberry 17-B..	950	6847
ST. MARTIN PARISH—		
Texas Co., St. Martin Land Co. 7, Henderson prospect, sec 9-8s-7e	*	8986

*Failures; †Junked; ¶Million cu. ft. gas.

LOUISIANA PERMITS

Shreveport, La.—Eleven drilling permits were issued last week by the minerals division, Louisiana Conservation Commission. Six of the permits were for North Louisiana, five being in Caddo Parish, with four of these for the Rodessa field. The other North Louisiana permit was for Claiborne Parish. The five South Louisiana permits were divided among the following parishes: Cameron, one; Iberia, three, and LaFourche, one.

ARKANSAS PERMITS

El Dorado, Ark.—Four drilling permits were issued last week by the Arkansas Board of Conservation, as follows: Sevier County—Pendleton and Vaughan, J. E. Johnson 1, 330 feet east and 165 feet south NWc SW SW 35-9-30; State Life Insurance Company 1, center SW SE 27-9-30; Union County—Marine Oil Company, Thompson A-8, 330 feet north and east SWc SW SE 3-18-13; J. C. Buckbee, Trustee, Albert E. Sloan 2, 330 feet north and east SWc SE NW 14-17-15.

ARKANSAS

Completions

Company, Well and Location		Init. Prod. Bbls.	Depth
CALHOUN COUNTY—			
The Hunter Co., Stout Lbr. Co. 1, NW SE 33-16-13	†		3597
MILLER COUNTY (Garland City)—			
Ed Donahue et al, Beck 3, 33-15-26	*		2957
Snowden & Hill, H. E. Beck 3, 34-15-26		120	2926

*Failures; †Junked; ¶Million cu. ft. gas.

THREE NEW STARTS

Mississippi completes two failures during week

SOUTHEASTERN STATES — WEEKLY STAFF REPORT

Jackson, Miss.—Three new locations were announced last week in Mississippi. In George County, southeastern part of the state, where this company has drilled two previous tests and done extensive geophysical work, United Gas Public Service Company was spudding Williams Unit 1, 200 feet north and 100 feet west of center SW 6-1s-5w. In Hinds County, Jackson gas field, Weaver and Alexander have spudded McLaurin 1, SWc NW NW 30-6n-2e.

In La Fayette County in the northern part of the state, W. L. Stewart and associates who recently abandoned a 4600-foot wildcat test in Grenada County, made location for A. E. Russell 1, Section 9-10s-1w, and spudded. A heavier rig will be installed at 3000 feet and the test may be taken to 6000 feet.

Humble Oil & Refining Company has completed a series of eight core hole tests on its holdings in Jeff Davis and Lamar Counties, south Mississippi. Locations of these core hole tests were as follows: Jeff Davis County—Section 12-6n-18w; Section 27-7n-18w; Section 13-7n-18w; Section 2-5n-19w; and Section 20-6n-18w; Lamar County—Section 32-5n-16w; Section 9-4n-15w; and Section 28-5n-15w.

MISSISSIPPI

Completions

Company, Well and Location		Init. Prod. Bbls.	Depth
GRENADA COUNTY—			
W. L. Stewart et al, W. W. Wood 1, se ne 19-22n-5e	*		4603
HINDS COUNTY (Jackson)—			
Weaver & Alexander, Walthall 2, ne se 25-6n-1e	*		2449

*Failures; †Junked; ¶Million cu. ft. gas.

ALABAMA

Mobile, Ala.—Danciger Oil & Refining Company which several months ago drilled a 2500-foot test in Baldwin County, South Alabama, on the Fort Morgan military reservation, has made location for a second test, U. S. Government 2, located 200 feet due north of the other hole. The new test is expected to be to 2500 feet.

A. R. Willis and R. F. Payne who have a 50,000-acre wildcat block in Greene County, Alabama, centering in township 22 north, ranges 1 east and west, are drilling a series of 800-foot cable tool shallow holes preparatory to securing data for a regular test. An eight-inch hole is being made.

S. A. Hobson and Frank P. Borden have assembled a 10,000-acre block in Winston and Marion counties in northwest Alabama, centering in township 9 south, ranges 10 and 11 west, north of Haleyville.

Arkansas Fuel Oil Company is paying rentals on acreage it holds in Washington County, South Alabama.

Monument Is Active

DOZEN RIGS RUNNING AND EIGHT WELLS PRODUCING

NEW MEXICO — WEEKLY STAFF REPORT

Hobbs, New Mexico.—Gradual expansion of activity in the Monument field, Lea County, has represented a noteworthy development lately in southeastern New Mexico.

Late last week five wells were either in process of completion or near the completion stage, while the field's activity included, in all, an even dozen rigs running or being assembled. In addition, another rig was due to move into the area immediately. Two new locations were made in the field the past week.

Spread out across an area roughly four miles long and one mile wide, there were eight producing wells in the field, not including those in process of completion.

Under the New Mexico proration program, each of the Monument wells has an allowable of 135 barrels production daily. During August, pipe line runs from the field aggregated 27,660 barrels, or an average of 892 barrels per day.

In consequence of recent extensions to the productive area, Monument has given indication that it may surpass Hobbs as the most important oil producing area of New Mexico.

The eight producing wells at Monument include: three of Amerada Petroleum Corporation, two of Sun Oil Company, and one each of Superior Oil Company, The Texas Company, and Shell Petroleum Corporation.

The 12 rigs in operation at Monument field include: two of Amerada Petroleum Corporation, two of Gypsy Oil Company, and one each for Sun Oil Company, Superior Oil Company, The Texas Company, Shell Petroleum Corporation, Barnsdall Oil Company, Republic Production Company, Jeffers Oil Company, and Phillips Petroleum Company. The additional rig to be employed in the field will be for use on property of Repollo Oil Company.

A location made by Repollo Oil Company was the latest that had been announced for the field last week. In addition, one other location had been made during the week. It was for Gypsy Oil Company, being South Graham State 1, located 660 feet from the south line and same distance from the east line of Section 2-20s-36e.

Amerada Petroleum Corporation had two wells near completion stage late last week at Monument. State 2-F, C NW SW 36-19s-36e, was deepening from 3912 feet, where it had gaged 322 barrels daily by swabbing and flowing, and State 1-G, C SW SW 18-19s-37e, was testing, with tubing run to 4006 and bottom of the hole at 4016 feet.

Gypsy Oil Company had cemented seven-inch casing at 3765 feet in Baxter V. Culp 1, C NE NW 19-19s-37e. Phillips Petroleum Company had ce-

mented seven-inch casing at 3787 feet in B. V. Culp 1, C NW NW 19-19s-37e. Shell Petroleum Corporation had cemented seven-inch at 3775 feet in State 1-B.

Other Monument tests included the following: Barnsdall Oil Company was running 12½-inch casing, with bottom of hole in Red Beds at 272 feet, in J. W. Cooper 1, C NE NE 12-20s-36e. Jeffers Oil Company's C. Britt-Conoco 1, C SE NW 7-20s-37e, was rigging up rotary, with hole bottomed at 2625 feet in lime. Republic Production Company was rigging up Selby & Maveety (Weir) 1, C SE SW 35-19s-36e, on the west edge of the field. Sun Oil Company's W. B. Maveety-Weir 3, C SE NE 35-19s-36e, was drilling Red Beds at 240 feet. Superior Oil Company's State A-2, C NW NE 2-20s-36e, was building derrick. The Texas Company's State E-1, C SW SW 1-20s-36e, was rigging up. Gypsy Oil Company was moving in materials for South Graham State 1, location of which was given above.

Activity in Other Areas

In addition to the new locations in the Monument area, there was one other for Lea County the past week, being Skelly Oil Company's B. F. Harrison 1, C NW SW 5-23s-37e.

Completions in Lea County the past week included three oil wells in the Eunice field, drilled by Atlantic Oil Producing Company, Humble Oil & Refining Company, and Ohio Oil Company. In addition, there was a completion by Henderson et al in the Jal field, being a well that was plugged back and made productive at a shallower level.

SANTA BARBARA TEST

Los Angeles. — Olympic Oil and Refining Company has tentative plans to drill a well just west of the town of Carpenteria, in the extreme southeasterly portion of Santa Barbara County.

Official location has not yet been made but drill site will probably be near the center of Section 29-4n-25w, about one-half mile west of the town of Carpinteria.

Numerous tests of this area have been drilled, mostly to the east of Olympic's location, nearly all of which obtained good showings of gas and a little oil, but none of which were ever capable of sustained production.

Wyoming Routine

LANCE CREEK WELL IMPROVES FLOW UPON RECOMPLETION

ROCKY MOUNTAIN FIELDS

WEEKLY STAFF REPORT

Casper, Wyo. — Developments in Wyoming during the week were routine, two oil wells and one gas well being completed, both oil wells being small. There was one failure.

Lance Creek

Continental Oil Company's Otto Rohlff 5, SE SW 32-36n-65w, Lance Creek field, Niobrara County, eastern Wyoming, flowed at the rate of 114 barrels per hour Wednesday morning through the seven-inch casing set at 3832 feet. The well previously was flowing 60 barrels an hour through two-inch tubing. The well cored 55 feet of saturated Sundance at 3840-95 feet and drilled to 3900 feet with hole bottomed five feet in the red beds.

Ohio Oil Company's Carrie Putnam 4, SW SW 33-36n-65w, is fishing for lost tester at 3942 feet with hole bottomed at 3996 feet. Caving formation above the lower Sundance caused the tester to stick. Operator may drill by. The well showed for around 60 barrels an hour before the tool was lost.

Huber Oil Company's Jose 1, NEc 6-35n-65w, is drilling at 2618 feet.

Big Muddy

Continental Oil Company is running 13⅜-inch casing to 3286 feet end of 16-inch hole in its deep test to the Tensleep in the Big Muddy field, State 60, NW SW NE 9-33n-76w, Converse County. Hole bottoms at 3296 drilled to 11-inch. The 11-inch hole was carried down from the surface casing point and then reamed to 16-inch for the 13-inch string.

Quealy Dome

The California Company, which has been shut down for the past two weeks in Quealy Dome wells, resumed in one of the operations this week. Holst 2, CSE NW SE 13-17n-77w, is drilling at 3202 feet. Wilson 1, C NW SW 18-17n-76w, is shut down for water at 1010 feet.

Carbon County

Ohio Oil Company and The California Company's Union Pacific 1 Account 1, NE SW SW 24-21n-79w, Carbon County, is cementing 11⅝-inch casing at 508 feet. State 2, CNW NW 36-21n-79w, is drilling shale at 4314 feet. The wells are on the recently proved Big Medicine Bow Dome where the joint operators brought in a 6000-barrel 64-gravity well.

Hot Springs County

Stanolind Oil & Gas Company released location for Ridgely 20, CSE SE 19-46n-98w, deep well to the Tensleep sand in the Grass Creek field, Hot Springs County. It is a north offset to the company's recent location, Mill Iron Cattle Company 72, NE SE SE 19-46n-98w, which is a rig waiting for water for boilers.

Argo Oil Company of Denver has a near completion in Rathvon-Govern-

MOUNTAIN STATES Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MONTANA		
GLACIER COUNTY (Cut Bank Field)—		
The Texas Co., Unit 1, cnw se 9-32n-5w	125	3008
Goodstein-Smith's Olson 1, cne se 26-34n-6w	50	2944
TOOLE COUNTY (Kevin-Sunburst Field)—		
The New Era Fuel Co., Halter 2, ne nw ne 21-35n-2w	60	1543
WYOMING		
SWEETWATER COUNTY (South Baxter Basin Field)—		
Wyoming-California Petroleum Co., Whalen 1, se se se 20-16n-104w	¶9	2430
WESTON COUNTY (Osage Field)—		
Herbison & Son, Draper 5, cnl nw nw 22-46n-63w	5	193
Des Moines Syndicate, Ost 10, ne ne ne 25-46n-64w	20	1433
Albert Jones, Julius Bock 10, csl nw ne 21-46n-63w	*	480
NEW MEXICO		
LEA COUNTY (Eunice Field)—		
Atlantic, State 1-D, c nw se 20-21s-36e	750	3931
Humble, State 5-B, sec 29-21s-36e	2200	3900
Ohio Oil Co., State Maxwell 1, c ne nw 16-22s-36e	400	3860
LEA COUNTY (Jal Field)—		
Henderson et al, Langley 1, c se se 8-25s-37e, pb from 3485 ft.	64	3468
LEA COUNTY (Monument Field)—		
Sun, Maveety (Weir) 2, c sw se 35-19s-36e	1800	3936

*Failures; †Junked; ¶Million cu. ft. gas.

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ment 1, NE SW NW 14-44n-98w, Hamilton Dome field, Hot Springs County. The well swabbed in for 150 barrels the first 24 hours and is running rods and tubing for a production test. Hole bottoms at 2894 feet in the Embar with the 8⅝-inch casing at 2800 feet. The well may be given a light shot of nitro-glycerine.

Big Horn County

Ohio Oil Company's Byron-Union 3, SE NW 25-56n-97w, Byron field, Big Horn County, is drilling at 5327 feet and is near its objective, the Embar formation. The company's P. G. Sessions 3, NWc 33-56n-97w, Garland field, is drilling shale at 2211 feet.

Yale Oil Corporation's Allen 1, SE NW SE 35-56n-97w, Garland field, is drilling at 1671 feet. Peter Evanoff's McAllister 1, NW NE SE 3-55n-97w, Garland, is drilling at 1875 feet. Ten-inch casing is set at 1352 feet.

Joan Oil Company's Howell 1, NEc NW NE 3-55n-97w, Garland, is drilling at 1015 feet.

Two wells started in the Osage field, Weston County, this week. They are Harkins et al's test 1, SE SW NW 31-46n-64w, drilling at 200 feet and Grytten Holm's Apostol 1, NW SE SW 4-46n-63w, spudding at 60 feet.

Rock River Field

Ohio Oil Company is rigging rotary to deepen Diamond Cattle Company 5, NWc SW NW 35-27n-88w, Rock River field, Carbon County, to the Sundance. The well originally was completed in the Dakota sand at 2832 feet for an initial production of 1000 barrels daily. It is a quarter-mile northwest of the company's Diamond 4, southeast corner of same quarter, which failed to get production in the lower formations and plugged back to the Dakota at 2740-2815 feet and was converted to a key well for repressuring the field under a gas drive.

The Texas Company's 6-K, CEL SE SW 34-27n-113w, LaBarge field, Sublette County, completed for 50 barrels initial production. The well is flowing by heads with total depth at 729 feet. The company's 7-K, CWL SW SE 34-27n-113w, is cementing seven-inch production string at 642 feet and is a near completion.

One abandonment and two first reports are late developments in the Kevin-Sunburst field, Toole County. Pfabe & Engleking's Government 9, NW SW SE 19-35n-2w, is plugging and abandoning at 1555 feet. New tests are: Nepstead-Montgomery-Fargher's Grass 1, SE SE 17-35n-1w, rig on location; and Carscallen & Mitchner's Krueger 1, NW SE NE 10-34n-2w, spudding.

PONDERA

Valier, Mont.—An important test on the west side of the Pondera field, which extends proved territory a mile if production develops, W. M. Fulton's Erickson 1, SW SW NE 10-27n-4w, is drilling out plug with the 6⅝-inch production casing set on top of the lime at 1835 feet. Total depth is 1880 feet. It will be acidized.

CUT BANK

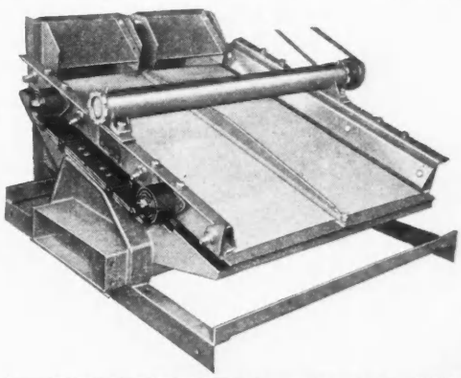
Cut Bank, Mont. — The Cut Bank field continued to dominate northern Rocky Mountain fields in activity with four completions and three starts this week. The field was extended a quarter-mile west with the completion of Custer Oil Company's Tweedy 1, NW NE 36-33n-6w, which swabbed in for 149 barrels initial with total depth at 2988 feet.

R. C. Tarrant had two completions. Britton 4, CSW SW 12-34n-6w, swabbed and flowed 230 barrels initial from 2832 feet. Larsen 2, NE 12-34n-6w, had an initial production of 50 barrels with hole bottomed at 2775 feet.

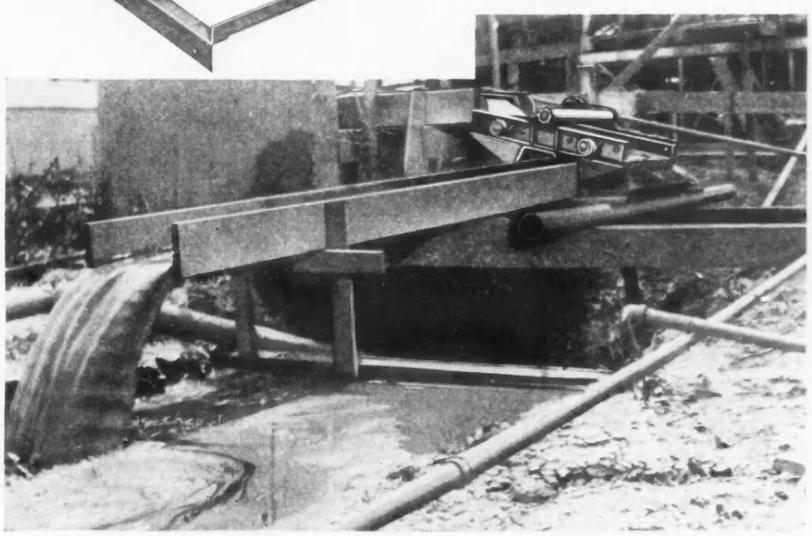
Jeffries Lukens 3, SW SE 1-33n-6w, a well within town limits, was a failure at 2995 feet.

The three new wells are as follows: R. C. Tarrant's Thacker 1, SW¼ NW¼ Section 27-32n-5w, building rig; Tarrant's Britton 5, CNW SW 12-34n-6w, rigging up; and Yukon Oil Company's Federal Land Bank 1, SE SW 11-34n-6w, location.

Baker, Mont.—The Montana-Dakota Utilities Company's Unit 1, NE NW 17-4n-6e, deep test of the Cedar Creek (Baker-Glendive anticline) Fallon County, eastern Montana is coring at 2586 feet in the Frontier series.



In the FITTSTOWN POOL.....



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Kern County Actice

MOUNTAIN VIEW LEADING FIELD IN THE DISTRICT

WEEKLY STAFF REPORT

Los Angeles.—Activity in the Mountain View Field, Kern County, is beginning to assume boom proportions again. During the past week there were four wells either completed or recompleted, and five new locations made.

E. G. Starr's Well 1, Section 25-30s-28e, was recompleted from a depth of 5948 feet for an initial production of 1416 barrels per day, 26.5 gravity, five percent cut. Water is shut off with 8⅝-inch casing cemented at 5579 feet, and 6⅝-inch liner is landed on bottom and cemented through perforations at 5772 feet.

A. T. Jergins Syndicate's Wright-Bloemer 1, Section 30-30-29, was recompleted for an initial of 3500 barrels per day, 33.0 gravity, 0.2 percent cut. Depth of this well is 5965 feet, with 8⅝-inch casing cemented at 5450 feet, and 6⅝-inch liner, including 511 feet of perforations, landed on bottom. This is one of the few wells in the Mountain View Field that is making an appreciable amount of gas, present production being 2,000,000 cubic feet per day.

Another well that showed a decided increase after being redrilled and deepened, was the A. T. Jergins Trust Nance 1, in Section 30-30-29. On original completion at a depth of 5714 feet, this well made an initial of 2600 barrels per day. However, on being deepened to 5910 feet, it was recompleted for an initial of 3500 barrels per day of oil, 33.0 gravity, cutting 0.2 percent, and showing a gas production of 3,000,000 cubic feet per day. Water is shut off with 8⅝-inch casing cemented at 5403 feet.

Fourth completion for the week was Mohawk Petroleum Company's Clendenen 5, Section 30-30s-29e, which made an initial of 1500 barrels per day rate, 29.6 gravity, 0.5 percent cut. Depth is 5918 feet, with nine-inch casing cemented 5439 feet and 6⅝-inch liner is landed on bottom, with perforations from 5730-5918 feet and 5635-5435 feet.

The five new locations include: Gilmore-Snyder Company's Mullaney 3, Section 24-30s-28e, Mohawk Petroleum Company's Hood 8, Section 30-30s-29e; Okane and Brain's No. 2, Section 30-30-29; and Standard Oil Company's Abadie 2, Section 13-30s-28e, and Mullaney 2, Section 24-30s-28e.

Small Belridge Well

One of the smallest wells brought in at the North Belridge Field, Kern County, was completed by Belridge Oil Company when its No. 28, Section 35-27s-20e, was turned into the flow tanks. This well was completed from the Temblor formation, being designated locally as the Belridge "15" zone, from a depth of 5444 feet. Initial production was 320 barrels per day rate, 38.0 gravity, cutting 40.5 percent water, and making approximately 5,000,000 cubic feet of gas. This well, while a considerable distance down structure from the large wells completed three and four years ago, is still well within the productive limits of the field, at least if subsurface contours are at all similar to the shallower zones, and a much larger production was expected. Also, this high water cut is very surprising.

Belridge's No. 28 is located in the center of Section 35, and wells along the southeasterly line of the same section were completed by these operators, just after discovery of the zone, for initial productions ranging as high as 11,500 barrels per day.

Owing to the subsequent discovery of the "Bloemer" sand, at a depth of about 8000 feet, in Ohio Oil Company's Bloemer 1, very little exploration work has been done in the Belridge "15" zone in the last three years.

Plug Back Semitropic Tests

A severe blow was dealt last week to hopes for deeper gas production in the Semitropic Field, Kern County, when Standard Oil Company of California plugged back two of its deep tests to the upper zones.

Standard's Smith 1, Section 9-27-23, was drilled to a depth of 4240 feet and encountered nothing below the 2860 foot zone, at which point it is now standing plugged.

Standard's Thompson 1, Section 1-27s-22e, has been plugged back to 2980 feet, where a test of the upper zones will be made. This well penetrated the "Big Blue" shale to a total depth of 3876 feet.

The only other development of importance in the field last week was Standard's notice of intention to drill a well on its Randolph Community lease, near the southeast corner of Section 14-27s-23e. This will be an outpost well on the northeasterly edge of the central portion of the Semitropic structure.

Midway Field Locations

For the first time since the beginning of the curtailment program, back in 1930, new wells are to be drilled by major companies in the Midway Field, Kern County.

One of the new wells will be drilled by Richfield Oil Company on its Maricopa lease, near the northwest corner of Section 36-12n-24w, and the other, Standard Oil Company's No. 29, will be drilled in the northeast corner of Section 3-32s-24e.

The Midway Field is one of the oldest of the larger California fields, having been discovered back in 1901. The proved acreage is approximately 27,000 acres, apart from the adjoining Sunset and Maricopa fields, which have an additional proven area of 17,000 acres.

There are 2535 wells in the field, of which 689 are completely shut in, and the field has a potential production of 50,480 barrels per day, as against an actual production of 35,750 barrels per day.

Chances for a large gas field in the easterly edge of the old Buena Vista Lake bed, about ten miles east of the Midway-Sunset field, were materially lessened last week when Ohio Oil Company started abandonment proceedings on its K.C.L. A-2.

Gas was first discovered in this area about two years ago, when Ohio's K. C. L. A-1 drilled through a series of gas zones from 5000 to 5650 feet and was finally completed from the third zone for 15,000,000 cubic feet of gas per day rate. This well penetrated on down to 7950 feet but encountered nothing of commercial importance in the lower horizons.

This second test, K. C. L. A-2, was carried down to only 5563 feet, al-

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though all of the productive formations in K. C. L. A-1 were penetrated, and all of them were barren.

These two wells are located less than one mile apart, A-1 being in Section 31-31s-26e, and A-2 in Section 32-31s-26e; and the failure of the latter to obtain gas production was quite a surprise to many operators, who had expected the productive formations to extend over a much larger area.

ORANGE LOCATIONS

Kraemer and Santa Ana areas are to be tested

Los Angeles.—Another test of the area just east of the old Kramer Field, Orange County, located about 35 miles southeast of Los Angeles, is scheduled to be drilled in the near future by Standard Oil Company of California.

Standard has recently acquired leases on 1200 acres of property in this area, extending north and east of the old field, up Santa Ana Canyon. Lease requirements provide for a well to be started as soon as preliminary geological work has been completed.

This district has long been considered a potential oil field by many prominent operators, and several tests have been drilled, but none of them went any deeper than 4200 feet. However, with the recent discovery of two fields from the conglomerate beds just above the Schist on the West Side of Los Angeles Basin, additional impetus has been given deep zone drilling throughout the entire Basin area.

The long-rumored test of the Santa Ana district, Orange County, took more definite shape last week when Continental Oil Company started grading roads to the prospective drill site.

Location will be approximately one mile from the town of Santa Ana, to the southwest near the center of Section 14-5s-10w.

Continental has done a considerable amount of geophysical work in this immediate locality and controls a block of leases comprising in excess of 1000 acres.

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LONG BEACH—		
Chief Oil Co., No. 4	235	4100
INGLEWOOD—		
Associated, Vickers 53	140	3088
SANTA FE SPRINGS—		
Union, Bell 75	135	6975
Bell 88	100	4525
KETTLEMAN HILLS—		
Kettleman No. Dome Assn., 83-34J	3010	8084
BELRIDGE—		
Belridge Oil Co., No. 28	400	5444
EDISON—		
Shell, Cauley 2	150	3101
Union, Brockman 1	50	1234
KERN FRONT—		
Associated, No. 4	200	2580
MOUNTAIN VIEW—		
E. G. Starr, No. 1	1415	5948
A. T. Jergins Trust, Nance 1	3500	5910
Mohawk Pet. Co., Clendenen 5	1500	5918
SEMITROPIC—		
Milham Explor. Co., No. 26-15	¶1.5	2390
KERN COUNTY—		
Continental, Layman 1	*	1783
BUENA VISTA LAKE—		
Ohio, KCL A-2	*	5563

*Failures; †Junked; ¶Million cu. ft. gas.

BOOM IS PASSING

Del Rey Hills extension activity being curtailed

Los Angeles.—The drilling boom of the Del Rey Hills extension of the Venice Field, located about 15 miles west of Los Angeles, is fast drawing to a close. During the past week three more tests were suspended for various reasons.

Allied Petroleum Company's No. 1 well, bottomed at 6686 feet, with 6⅝-inch casing cemented at 6440 feet, tested wet and is now standing idle.

Otis Hoyt's No. 1 well drilled to 6309 feet without penetrating any sizeable body of oil sand, and has been suspended temporarily while the crew is working on a well in the Fruitvale Field, Kern County.

Mathews Petroleum Corporation drilled its No. 1 well down to 6547 feet and set 6⅝-inch casing at 6274 feet. This well has tested wet on all production trys and is now idle.

As the wells now being drilled are either completed or suspended, no new wells are started in their places, and the suspension of these three wells leaves only four projects actually drilling in the area.

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EXTENSION DISCOUNTED

Crystal-Ferris inside wells make heavy flow

WEEKLY STAFF REPORT

Mt. Pleasant, Mich.—As prolific Dundee production was being developed on three tests in inside districts of the Crystal-Ferris pool, northwest extension tests showed a marked drop in the structure and killed hopes of a major northwest trend from the developed area in the newest lime field of the state.

Production ranging from 4000 to 8000 barrels was developed on three inside tests during the week but more important was the failure of one extension test and apparent failure of another.

McClanahan Oil Company's McConkey 1, SW NE SE 33-11n-5w, a mile west of production in the main field but only a quarter-mile southwest of a 10- to 20-barrel well, topped Dundee at 3259 feet, bailed water at 3275 feet and had 2000 feet of brine in the hole at 3277. Hole was bottomed at 3280. It will be abandoned. The same company's Cole 1, SE SE SW 33-11n-5w, a quarter-mile southwest of the failure had drilled to 3280 feet without production, apparently a failure.

Unless the structure is picked up farther to the north or south, failure of the northwest district will be a major blow to the Crystal-Ferris development. This area has been heavily played and five other tests are drilling.

D. A. Burris' Becker 1, 35-8n-3w, Clinton County, a wildcat test far down the structure from the Crystal field, topped Dundee lime at 2870 feet and went into water at 2907 feet. It will be abandoned.

Wildcatting took a spurt this week with five new starts in scattered districts of the state and Michigan activity continued at a high peak with over 125 active rigs.

Mt. Pleasant, Mich.—Three new independent refineries are under construction in Michigan. Crystal Refining Company is building a 1500-barrel unit at Carson City, six miles south of the Crystal field; Acme Refining Company is building a 2500-barrel unit, and Wolverine Refining Company is erecting a 1200-barrel plant, both at Alma.

MICHIGAN CONTROL

Discuss proposed bill during exposition week

Mt. Pleasant, Mich.—A special committee headed by Dr. Virgil R. D. Kirkham, economic geologist, has completed drafting of a proposed state oil control bill which will be discussed in open forum here the week of September 23 to 28 during the first Michigan Oil and Gas Exposition. The draft of the bill has not been revealed but according to Dr. Kirkham it was designed on a compromise basis to meet agreement between proponents and opponents of state control.

At the last session of the state legislature a proposed state oil control bill was turned down. The special committee was named by a legislative committee and the Oil and Gas Association of Michigan to redraft the bill.

More than 70 oil field exhibits will be on display here during the week of September 23 to 28, including rotary and cable tool drilling rigs in operation, supply and equipment exhibits, geological and refining exhibits.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MIDLAND COUNTY—		
Pure Oil Co., Naramore 17, 13n-1w, n-s-sw-15	75	3410
W. H. Atha, Doyle 1, 13n-1e, se se sw-33	*	3541
ISABELLA COUNTY—		
McClanahan Oil Co., Sweeney 2, 15n-3w-33	100	3627
H. L. McEvoy, Demski 2, sw sw se-29, 15n-3w	40	3617
MOUNTCALM COUNTY—		
Pure, Preston 1, 10n-5w, ne se ne-3	7600	3188
Mangus 2, 10n-5w, sw nw sw-2	7500	3194
Gordon Oil Co., Strait 1, 10n-5w, ne ne nw-3	3900	3202
Shell, Smead B-1, 10n-5w, se ne se-2	350	3197
Noah Andrew, Ries 1, 11n-5w, se nw ne 34	*	3221
Isabella Oil Co., Strait A-1, 11n-5w, sw sw nw	15	3237
Fred Turner, Taylor 1, 11n-5w, sw nw se-35	35	3205
King Drilling Co., Phillips 1, 11n-5w, se se ne-36	¶4½	1021
McClanahan Oil Co., McConkey 1, 11n-5w, sw ne se-33	*	3280
Ide Oil Co., Towle 1, 11n-5w, sw sw sw-6	*	3400
Gordon Oil Co., Keyt 1, 12n-8w, nw nw nw-21	*	3600
D. W. Session, Session 1, 9n-6w, se sw sw-2	*	3250
GLADWIN COUNTY—		
Sun, Fanslau 1, 18n-2w, ne nw-6	*	4050
CLINTON COUNTY—		
D. A. Burris, Becker 1, 8n-3w, nw se-35	*	2900

*Failures; †Junked; ¶Million cu. ft. gas.

EASTERN STATES

WEEKLY STAFF REPORT

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
KENTUCKY		
OHIO COUNTY—		
Cumberland Pet. Co.'s Brooks 18	20	....
Brooks 17	*	....
Brooks 15	40	....
Marietta Oil Co.'s Crow 5	60	....
D. J. White & Co.'s Cheek 2	¶	....
Inland O. & G. Co.'s Arch Rhodes 1	¶	....
Stewart & Gealey's Roberts 16	50	....
The Petroleum Co.'s Bellamy Hrs 6	40	....
Bellamy Hrs 7	50	....
Bellamy Hrs 8	30	....
J. C. Miller & Co.'s Webster 5	30	....
Ohio Oil Co's A. J. Phister 11	*	....
W. E. Hupp & Co.'s Bellamy 3	30	....
A. H. Medcalf 2	20	....
HANCOCK COUNTY—		
W. E. Hupp & Co.'s Bannon 1	40	....
Bannon 8	70	....
HENDERSON COUNTY—		
Imperial O. & G. Products' Freeman 6	9	....
McLEAN COUNTY—		
Ohio Oil Co.'s G. B. McManama 5	38	....
PENNSYLVANIA		
ALLEGHENY COUNTY—		
J. F. Treese & Co.'s Bauman Hrs. 4	5	2096
Oliver Miller & Co.'s Barton & Lee 1	¶	1950
BEAVER COUNTY—		
Cook & Co.'s Abrams 6	1	....
Grove & Co.'s Watson 1	1	1700
SOUTHEASTERN OHIO		
MONROE COUNTY—		
D. S. Chirtman's Gray 3	3	815
F. H. Ward & Co.'s Friday 2	1	....
A. E. Robinson & Co.'s Miracle 2	1	....
Sylvania Prod. Co.'s Kinney Hrs 12	*	....
MORGAN COUNTY—		
Chouquill & Co.'s Ervin 3	*	1410
Glaizer, Kepple & Co.'s Van Fossen 12	¶	1584
Phillip Roe, Jr.'s Oudoff 6	*	1523
Anderson & Co.'s Vickers 3	*	....
MORGAN COUNTY—		
E. F. G. Parks & Co.'s Bowers 1	*	....
L. C. Burt & Co.'s Tuttle & Co. 2	2	....
NOBLE COUNTY—		
Home Realty Co.'s P. O. Spear 2	*	190
R. L. Smithberger's J. N. Noll 5	*	968
PERRY COUNTY—		
Sunday Creek Coal Co.'s O'Connor & Co. 19	1	....
Ohio F. G. Co.'s Stoner 1	¶	3035
Allegheny Oil Co.'s McDonald 22	*	....
WASHINGTON COUNTY—		
Wooster & Wooster's Fleeman & Parks 5	¶	840
Harry Binegar's L. C. Moore 6	¶	835
CENTRAL OHIO		
ATHENS COUNTY—		
Ohio F. G. Co.'s Chappel 2	¶	511
Carpenter & Glaizer's Smith 4	*	177
Smith 5	*	264
A. D. Townsend & Co.'s Bobo 1	*	....
Carpenter & Glaizer's Smith 3	*	....
MUSKINGUM COUNTY—		
Hope Const. & Refg. Co.'s Varner 5	79	3197
H. P. Muhlback's Murphy 2	59	....
MEDINA COUNTY—		
Ohio F. G. Co.'s Cleveland Tr 1	*	....
H. Peterhensel 1	¶	....
Oko O. & G. Co.'s Clyde Richards 7	8	505
Ohio F. G. Co.'s Harvey Sangler 2	¶	3283
CUYAHOGA COUNTY—		
Ohio F. G. Co.'s Cleveland Tr 1	*	2601
HOLMES COUNTY—		
East Ohio Gas Co.'s Blanchet 1	*	4355
STARKE COUNTY—		
East Ohio Gas Co.'s Braucher 2	¶	3325
LICKING COUNTY—		
E. H. Everette's Montgomery 2	38	2271
MEIGS COUNTY—		
Meigs Dev. Co.'s Romine 1	¶	792
D. C. Moffette & Co.'s Wolfe 1	¶	1945
Meigs Dev. Co.'s Circle 1	¶	1884
Ohio F. G. Co.'s Pickett 1	*	....
TUSCARAWAS COUNTY—		
Frank Phillips & Co.'s Stocker 1	*	1204
WAYNE COUNTY—		
Nelson & Co.'s Sechrist 1	¶	611
FAIRFIELD COUNT—		
City Nat. Gas Co.'s Mossbarger 2	¶	820
PERRY COUNTY—		
Wehrle Bros.'s Helser 1	¶	2313
Ohio F. G. Co.'s Ridenour 1	¶	2962
GUERNSEY COUNTY—		
Frank Lyons's Lent 1	*	1350
George Jewell & Co.'s Henderson 1	¶	1542
East Ohio Gas Co.'s James & Retta Gad 1	22	3671
INDIANA		
GIBSON COUNTY—		
Indiana S. W. Gas Corp.'s Wallace 1	*	411
Louisville Bank 2	¶	435
Louisville Bank 3	¶	....
PIKE COUNTY—		
C. M. Amsler's Traylor 1	*	....
DAVIESS COUNTY—		
Delmar Patterson & Co.'s Ageton 3	*	697
MARTIN COUNTY—		
Trinity Oil Co.'s Thompson Hrs 1	*	1610
LAWRENCE COUNTY—		
J. I. Imler's Ragsdale 2	*	....
SPENCER COUNTY—		
Big Town O. & G. Co.'s Painter 1	*	....
V. S. Hollingsworth's Heinze 1	*	622
Petroleum Explo. Co.'s Balback 6	*	....
Balback 7	30	....
Balback 8	*	....
SULLIVAN COUNTY—		
W. A. Sage's Eads 1	*	405
DUBOIS COUNTY—		
Claude Noble's D. & L. Neukn	¶	352
POSEY COUNTY—		
L. R. Henley's Klenck 1	¶	1920
SPENCER COUNTY—		
Petro. Explo. Co.'s Foorsch 1	*	765

*Failures; †Junked; ¶Million cu. ft. gas.

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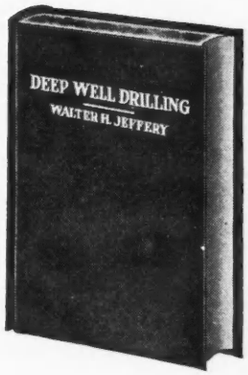

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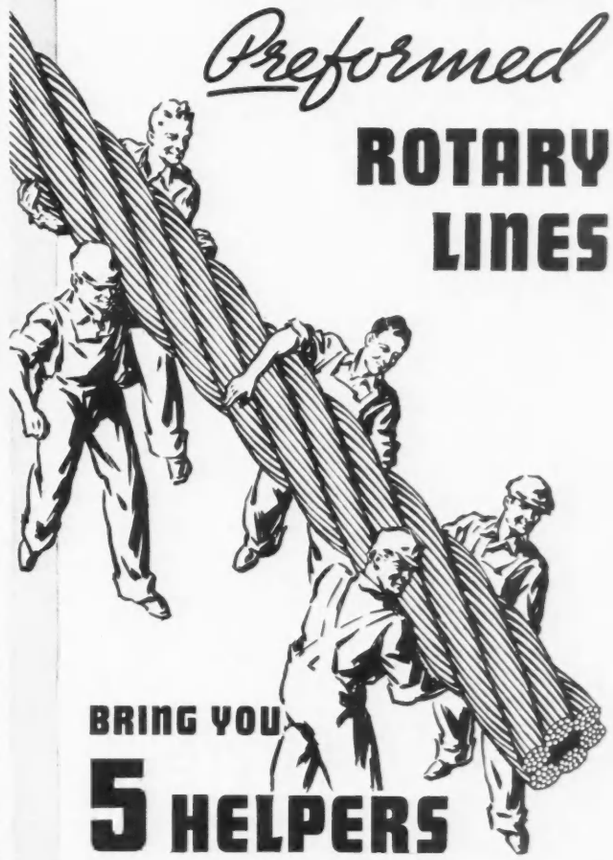

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ACCO

LAY·SET
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THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

ALABAMA

BALDWIN COUNTY—Danciger O&R Co.'s U. S. Government 2, (Fort Morgan reservation), mim.

COVINGTON COUNTY — Geometer Prod. Co.'s A. B. Culbreth 1, sw ne 8-2n-14e, sd 6302 ft.

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 1, nw sw 9-3n-29e, sd 3035 ft.

LAMAR COUNTY — DeSoto O&G Co.'s Gardner 1, nw nw 22-15-26, dr 4701 ft, lime.

MOBILE COUNTY—J. C. Prine's Fee 2, n½ ne 4-1n-4w, sd 2400 ft, lime.

ARKANSAS

ARKANSAS COUNTY—Grand Prairie Realty Co.'s Fischer 2, ne nw nw 6-6s-4w, fsg td 1626 ft.

ASHLEY COUNTY — Benedum & Trees' Holmes 1, ne sw 4-17-5, rur.

COLUMBIA COUNTY—J. G. Cubage's Rhea 1, sw se se 12-17-22, sd 3500 ft. Southern States Gas Co.'s Pinewoods Lbr. Co. 1, sw ne nw 10-20-22, sd 960 ft.

DALLAS COUNTY—J. D. McCall & J. C. Kelly's R. Owen 1, nw sw 26-10-16, dr 530 ft.

HEMPSTEAD COUNTY — F. W. Martin's Lafferty 2, se nw 17-14-27, dk.

LA FAYETTE COUNTY — Earl F. Fox's Coleman 2, ne ne 30-16-24, rur. Leach et al's Bodcaw Lbr. Co. 1, 20-16-23, lcn. S. H. Riggs et al's DuBose 1, se sw nw 35-16-24, Bodcaw Lbr. Co. 1-20-16, lcn. S. H. Riggs et al's DuBose 1, se sw nw 35-16-24, pb to 2597 ft to redrill sand that so, old td 2817 ft. Transportation Pet. Co.'s Cochrane 1, ne se 26-19-25, dr 3075 ft. Joe Modisette et al's Frost Lbr. Co. 1, sw sw 29-19-24, rur.

MILLER COUNTY — L. H. Mahon et al's Miller L&T Co. 1, sw se 29-18-27, wocs 10-in csg 150 ft.

MONROE COUNTY—Beaver Pet. Co.'s Stinson 1, sw se sw 27-4n-2w, claim sg 1410 ft.

OUACHITA COUNTY — Snow-Black Pet. Co.'s Jerry Bedord 1, sw sw 32-11-18, dr 1595 ft.

POINSETT COUNTY—Rockwell Dev. Co.'s Fee 1, 13-11n-3e, sd 740 ft.

SEVIER COUNTY—Pendleton & Vaughan's State Life Ins. Co. 1, sw se 27-9-30, mim.

UNION COUNTY — Mrs. R. K. Jones' J. Davis 1, nw nw 28-16-14, sd 3295 ft. Ohio Oil Co.'s Sam Oliver 2, nw sw sw 7-17-13, lcn. Wallingford & Cobb's Laney 1, 10-in csg 175 ft wocs.

CALIFORNIA

KERN COUNTY

ARVIN—General's Mattson 1, 1-32-29, dr sand and shale 7941 ft.

BUENA VISTA LAKE—Ohio's K. C. L. A-2, 32-31-26, abn 5563 ft. Shell's B.V.A. 1, 9-32-25, coring 8985 ft.

BUTTONWILLOW—Texas Co.'s Whiting 1, 8-28-23, td 2475 ft, wocs 8⅝ in 2355 ft.

CALIENTE CREEK—R. H. Gilbert's Oil Co.'s O&H 1-A, 32-30-30, spud Sept. 7.

COMANCHE POINT — Tejon Ridge Oil Co.'s No. 1, 23-32-29, dr shale 2160 ft.

DEVIL'S DEN—Cumberland Oil Co.'s Cumberland 2, 17-26-18, co to bottom 3260 ft to deepen.

EDISON—Bauer Oil Co.'s Bauer 1, 21-30-29, rig. Navy Oil Co.'s Caravel 1, 19-30-30, skidded rig and started new hole.

FAMOSA—Ausbrit Oil Corp.'s No. 1, 20-27-27, material on lcn.

GRAPEVINE—Silver Gate Co.'s Tejon 1, 7-10-19, sd 2170 ft.

GREENFIELD—United Explor. Co.'s Ricomini 1, 23-30-27, sd 3755 ft.

LOST HILLS—Standard's United 1, 2-26-20, td 5816 ft, cutting stuck dr pipe 4009 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

* —*dry hole abandoned well.*	owdd —*old well drilling deeper.*
‡ —*salt water (completions.)*	owpb —*old well plugging back.*
† —*junked and abandoned.*	pb —*plugged back or plugging back.*
¶ —*million feet of gas.*	r —*reaming.*
abd —*abandoned.*	rog —*rig on the ground.*
bbls —*barrels.*	rur —*rigging up rotary tools.*
br —*building rig.*	rust —*rigging up standard tools.*
b.s. —*basic sediment.*	sd —*shut down.*
csg —*casing.*	sdtr —*sidetracking.*
co —*cleaning out.*	sg —*show gas.*
dd —*drilling deeper.*	si —*shut in.*
dk —*derrick.*	so —*show oil.*
dr —*drilling.*	so & g —*show oil and gas.*
fsg. —*fishing.*	spd —*spudding.*
ft —*feet.*	sr —*straight reaming.*
hfw —*hole full of water.*	sw —*salt water.*
in —*inches.*	td —*total depth.*
lcn —*location.*	ur —*underreaming.*
m —*milling.*	wih —*water in the hole.*
mim —*moving in materials.*	wo —*workover.*
mit —*moving in tools.*	wocs —*waiting on cement to set.*
mot —*milling on tools.*	wosr —*waiting on standard rig.*
n, s, e, w, —*north, south, east, west.*	
oih —*oil in hole.*	

McFARLAND—John H. Webb's Alta 1, 16-26-26, dr sandy shale 1255 ft.

McKITTRICK — Big McKittrick Oil Co.'s Wisecarver 1, 30-30-22, sd 275 ft.

SAN EMIDIO—Ohio's K.C.L. C-11-49, 11-11-22, coring hard sand and shale 3830 ft.

SO. BUTTONWILLOW—Jack Doyle's No. 1, 5-30-24, dr gray sand and shale 5175 ft.

SO. DOME—Continental's Gatchell 28-7, 7-25-20, recovered 2½ in. tubing, reconditioning mud, td 7420 ft.

TRICO—Standard's Bolz 1, 33-24-23, rig.

MISCELLANEOUS

FRESNO COUNTY—Taft Well Drlg. Co.'s Kreyenhagen 1, 33-22-16, coring sand and shale 4258 ft.

SACRAMENTO COUNTY—Great American Pet. Co.'s Howard 1, 25-2-8, td 3041 ft, trying to locate water.

SAN JOAQUIN COUNTY—Amerada's F. D. L. 1, 15-2-5, dr sandy shale streaks shell 7325 ft.

TEHAMA COUNTY — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, td 5032 ft, to set casing.

MONTEREY COUNTY—Shell's Branch 1, 34-24-10, dr black shale 5082 ft.

SANTA BARBARA COUNTY

CARPINTERIA—Olympic O&R Co.'s No. 1, 29-4-25, lcn.

GOLETA—Shell's Hollister 1, 10-4-29, td 2977 ft, plug 1036 ft, bailed water, sd.

LOMPOC—M. J. Freeman's La Brea 1, 11-7-33, dr shale 1262 ft. Lompoc Pet. Co.'s Beauterbough 2, 18-7-34, sd 3775 ft, to drop from report.

SANTA MARIA—Union's LeRoy 1, 16-10-34, dr sand and shale 1530 ft.

VENTURA COUNTY

BARDSDALE—Union's Dryden 10, 12-3-20, dr hard sand 4131 ft.

FILLMORE—Texas Co.'s Unit Plan 2-1, 29-4-19, dr sand and shale 3207 ft.

LAS POSAS—Las Posas Pet. Co.'s Mahan 1, 22-3-20, td 8120 ft, plugging back to test upper zones.

OXNARD—General's McGrath 1, 26-2-23, dr sand and shale 6438 ft.

SHIELLS CANYON—Bankline Oil Co.'s Calumet B-1, 3-3-19, dr hard sand 1873 ft. Texas Co.'s Shiells 128, 4-3-19, td 7423 ft, plug 4396 ft, fsh under 400 pounds pressure for dr pipe and perforator.

SIMI—Jas. S. Hull's No. 1, 2-2-18, dr conglomerate 620 ft. Paloma Oil Co.'s Paloma-Marr 1, 12-2-18, td 2740 ft, waiting on casing.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, dr shale streaks sand sg&o, 5540 ft.

SOUTHERN CALIFORNIA

BREA CANYON—Pressel-Perry-Tull's Baird 1, 30-2-9, td 4535 ft, to set 5-in 4000 ft.

CARBON CANYON—Tehama Pet. Corp.'s Kramer 1, 33-2-8, dr hard sand and shale 2935 ft, sg&o.

EAST MONTEBELLO — Wilshire Annex Oil Co.'s Baldwin C-1, 11-2-11, rur.

EL SEGUNDO—Larco Oil Co.'s Van 1, 12-3-15, coring sandy shale 6575 ft.

LAWNDALE—Sovereign Oil Corp.'s Ben Long 1, 22-3-14, td 6069 ft, co.

MALIBU—Henry R. Dabney's Malibu 1, 32-1-18, rur.

PICO—Frontier Oil Co.'s No. 1, 12-2-12, dr hard sand and shale 5067 ft.

PICO CANYON—N. M. Fraser's No. 1, 31-4-16, dr hard sand 507 ft.

PUENTE—North American Oil Consolidated's Smith 3-1, 30-1s-10w, spud Sept. 11.

SANTA ANA — Continental's Santa Ana Community 1, 14-5-10, grading roads.

PUENTE—York Oil Co.'s Sentous 1, 2-2-10, laying water lines.

RICHFIELD — Leaseholder's Dev. Co.'s Vejar 1, 26-3-9, td 4056 ft to deepen.

SAUGUS — International Oil Developer's Powell 2, 34-5-16, rur.

TOPANGA CANYON—Monarch Pet. Co.'s Sylvia Park 1, 5-1-16, dr 215 ft.

TORRANCE—Eyers Pet. Corp.'s No. 1, 20-4-13, lcn. Pioneer Holding Co.'s Pioneer 1, 33-3-14, lcn.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 1, 11-11-5, td 938 ft, sg&o, to core ahead. Hillman Long's Pellisier 1, 2-3-8, dr hard shale 1602 ft.

COLORADO

ARCHULETA COUNTY—Wm. E. Hughes Estate's Fee 1, se 24-3n-2e, spd new hole 1500 ft east. Navajo Oil Co.'s Crowley 1, ne 11-32-1e, dr 1130 ft with so and g and water. Oil City Pet. Co.'s Garnett 2, nw nw sw 25-33n-2e, dr in sand 1512 ft.

BOULDER COUNTY—Leslie R. Steele et al's Maxwell 1, sw ne nw 24-1n-71w, dr 1685 ft in lime.

GRAND COUNTY—Colorado Oil Refining Co.'s Linke 1, ne sw sw 13-1n-77w, d. 2550 ft in light gray shale.

JACKSON COUNTY—Continental's Hoye 3, nwc ne 34-9n-78w, dr 4515 ft.

LINCOLN COUNTY—Consolidated Smelting and Metals Corp.'s 17s-52e, dr on iron 1740 ft (corrected depth).

MONTEZUMA COUNTY — Coon & Teague's (McElmo Oil Co.) West 1, ne nw nw 31-36-17, dr 3705 ft.

MORGAN COUNTY—Swisher et al's Lunt 1, sw sw sw 3-4n-60w, ur 4¾ in csg to set 1075 ft.

PARK COUNTY—South Park Oil Co.'s State 1, se se sw 16-11s-17w, set 8¼ in csg on bottom 2510 ft.

FLORIDA

HILLSBOROUGH COUNTY — Southern Pet. Co.'s Mizell & Williams 1, se ne 4-32s-21e, fsg pipe at 1000 ft, td 2465 ft.

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 1, se se 17-24s-25e, sd 1946 ft.

PINELLAS COUNTY—Dr. Edward A. Hill's W. J. Meyers 1, ne ne 2-27s-16e, dk.

POLK COUNTY—Dr. Edward A. Hill's Polk Co. Lbr. Co. 1, nw ne 32-25s-25e, dk.

KANSAS

BARBER COUNTY—Wentz' Skinner 1, cnw ne 29-31s-14w, td 4556 ft, prod 20 bbls oil.

BARTON COUNTY—Price et al's Ehrlich 1, nw nw se 10-16s-13w, sd 3140 ft. Suppe & Witts' Hayes 1, nw nw nw 7-16s-15w, co 3150 ft. Torry & Feaster et al's Feist 1, ne ne se 29-18s-11w, dr 2575 ft. Lario et al's Peter 1, nw nw nw 24-20s-11w, dr 2805 ft. Continental's Klug 1, cn½ n½ ne 18-17s-12w, dr 3105 ft. Torry & Feaster et al's Kimpler 1, se ne ne 31-18s-11w, sd 1800 ft. Witt et al's Murry 1, nw nw sw 14-17s-14w, spd & sd.

BUTLER COUNTY—Western Kansas P. &

R. Co.'s King & Marshall 1, nw nw sw 11-28s-6e, co 2827 ft. Mohawk Oil Co.'s Overstreet 1, nw nw nw 19-26s-8e, sd 555 ft. Palmer et al's Ellis 1, ne ne ne 7-25s-4e, sd 35 ft.

COWLEY COUNTY—Baden, Johnson, Roth & Farrout's David 1, ne ne sw 35-30s-4e, td 2975 ft, prod 230 bbls oil. Wakefield et al's Auman 1, se se ne 32-33s-3e, dr 3335 ft. Winkler-Koch et al's Harlan 1-B, cnw ne 13-31s-7e, sd 150 ft. Earl Wakefield's Hanna 1, ne ne sw 2-31s-4e, lcn.

ELLIS COUNTY—Helmerich & Payne et al's Kuhn 1, nw sw ne 16-13s-20w, dr 3876 ft. Lewis Roark et al's Bemis 1, se se se 16-11s-17w, dr 2595 ft. Reynolds et al's Walter 1, se ne sw 2-12s-18w, mim. Palmer & Storm King's Bowlby 1, ne nw nw 13-11s-16w, dr 2095 ft. Twin Drlg Co.'s Goetz 1, sw sw se 3-14s-17w, cellar.

ELLSWORTH COUNTY — Lario et al's State 1, sw sw sw 29-15s-8w, sd 2525 ft. Franco Central et al's Frevert 1, sw sw sw 8-17s-10w, td 3355 ft, 600 ft oih, no test. Keith et al's Schepmann 1, sw sw nw 22-17s-10w, dr 1575 ft.

GRAHAM COUNTY—Helmerich & Payne's Stites 1, csw sw 8-19s-22w, td 4220 ft, to pb. Vickers Pet Co. et al's Hutton 1, ne ne se 29-8s-22w, sd 85 ft. Cusco Oil Co.'s Kaufman 1, cne ne 18-6s-24w, br.

HARVEY COUNTY—Hartman & Blair's Redinger 1, nw nw nw 15-24s-3w, td 3842 ft, prep to core. Goering Bros.' Brainard 1, ne ne sw 3-23s-2w, ur 8-in csg 3198 ft.

KINGMAN COUNTY—Lauck et al's Skilling 1, se se sw 33-27n-8w, rig.

LOGAN COUNTY—Alma Pet. Co. and McNeeley's Watchorn 1, csw ne 13-15s-33w, dr 2870 ft.

McPHERSON COUNTY — Carey et al's Husband 1, se se nw 6-19s-13w, fsg 3005 ft. Hollow, Toews & Hinkel's Aschman 1, nw nw se 8-21s-4w, dr 3870 ft. Wentz' Holdeman 1, nw nw se 16-18s-1w, dr 2240 ft. Washabaugh et al's Berg 1-A, sw sw ne 15-20s-3w, abd.

PRATT COUNTY—Skelly et al's Gilchrist 1, cse ¼ 7-28s-11w, wcc at 350 ft.

RENO COUNTY — Allison-Fitzwilliams et al's Dukelow 1, ne ne ne 11-22s-8w, sd 3430 ft. Haynes Bros. et al's Mueller 1, se se nw 30-24s-4w, pb to 3400 ft, est 500 to 600 bbls oil. Stanolind-Amerada's Hilger "A" 1, ne ne sw 21-26s-4w, Whipstock at 3823 ft. Shell Pet. Corp.'s Reese 1, cw½ w½ sw 11-26s-9w, dr 3677 ft. McPherson Drlg Co. et al's Miller 1, ne ne nw 34-24s-5w, dr 1800 ft. Foraker et al's Hiett 1, se sw ne 34-24s-4w, ur 12-in csg 1485 ft.

RICE COUNTY—Three Rivers Oil Co.'s Buehler 1, nw nw nw 17-18s-8w, td 3435 ft, D. & A. Aylward et al's Rickard 1, sw sw nw 22-18s-9w, td 3400 ft, pb 3260 ft. Douglas & Hutchinson O. & G. Co.'s Hammell 1, ne ne ne 16-19s-10w, dr 2737 ft. Anderson-Kerr's Wernet 1, nw nw nw 24-20s-9w, wcc at 3304 ft. Aylward et al's Haas 1, ne nw ne 4-19s-10w, dr 1225 ft. James Davis' Bernstarf 1, sw sw sw 19-19s-10w, dr 245 ft. Continental Oil Co.'s Ferguson 1, se nw ne 8-18s-7w, dr 3005 ft. Detrick et al's Conner 1, cne ne 28-19s-7w, dr 1350 ft.

ROOKS COUNTY—El Dorado Ref. Co. et al's Marshall 1, cse se 8-7s-17w, wcc at 958 ft. Smith-Ash's Nelson 1, nw nw ne 27-10s-16w, dr 3783 ft. Tree Oil Co. & Findeiss' Johnson 1, sw sw se 26-10s-19w, td 3349 ft, prod approximately 100 bbls oil. Lario et al's Fisher 1, ne ne ne 22-10s-18w, dr 2242 ft. Gillespie & Son's Low 1, ne ne nw 12-6s-18w, td 1065 ft. Murfin et al's Washusin 1, ne ne se 19-9s-16w, fsg 1300 ft.

RUSH COUNTY—Twin Drlg. Co. et al's Appl 1, sw sw ne 29-17s-17w, dr 3562 ft. Ramsey Pet. Co. et al's Darkes 1, sw sw nw 5-17s-20w, pb 3533 ft, dr by 3652 ft. Gypsy Oil Co.'s Kraisinger 1, se ne se 23-16s-17w, dr 3588 ft.

RUSSELL COUNTY—Roth & Farrout's Shaffer 1, nw nw ne 31-13s-12w, dr 2940 ft. Stearns & Streeter's Dreling 1, sw sw sw 8-13s-15w, dr 3347 ft. Hartman & Blair's Mills 1, se se sw 27-13s-15w, dr 3325 ft. J. Brouk & R. D. Bailey's Kluesner 1, nw nw se 34-15s-12w, wcc at 3278 ft. Coraleana's Fiegler 1, se se se 11-15s-14w, td 3359 ft, D. & A. Nassau Oil Corp.'s Karst 1, nw sw ne 27-15s-14w, sd 2815 ft. Coraleana's Berrick 1, ne nw ne 6-15s-13w, dr 250 ft. Hartman & Blair et al's Claussen 1, se ne sw 34-12s-14w, dr 2280 ft. Murfin et al's Gorham Estate 1, ne ne se 29-14s-15w, mim. Johnson et al's Mermis 1, ne ne sw 29-13s-15w, br. Central Pet. Co.'s Boxberger 1, nw nw nw 36-15s-15w, lcn.

SEDGWICK COUNTY — Dickey et al's Chase 1, se se se 11-27s-2e, dr 2940 ft. Derby et al's Bartholomew 1, sw sw nw 8-27s-4w, dr 4105 ft. Allison & Fitzwilliams et al's Struthers 1, ne sw sw 34-28s-2w, dr 4200 ft.

STAFFORD COUNTY—Rose Spring Drlg. Co. et al's Toland 1, nw nw sw 2-25s-14w, sd 3764 ft. Atlantic & Phillips Pet. Co.'s Cornwell 1, cne sw 4-25s-13w, coring 3988 ft. Sedgwick Oil Co.'s Ellinwood 1, se sw sw 33-21s-11w, dr 3503 ft. Atlantic & Phillips et al's Community Brown 1, cnw ne 16-23s-13w, rig.

SUMNER COUNTY — Allison & Fitzwilliams et al's Hitchcock 1-B, se se nw 16-30s-1w, td 4032 ft, D. & A. Winkler & Koch et al's Belsley 1, sw sw nw 2-32s-2w, dr 3335 ft. Wilson et al's Clark 1, csl nw 15-35s-1w, dr 1948 ft.

TREGO COUNTY—Hansa & Lauck's Lang 1, se se nw 1-14s-21w, co 3645 ft. Vickers Pet. Co et al's Secor 1, nw nw nw 25-15s-24w, ur 6-in csg 3775 ft.

WOODSON COUNTY—Saco Oil Co.'s Hassenpflug 1-A, sw nw ne 34-25s-14e, dr 1415 ft. Sheedy's Snattinger 1, ce½ ne ne 3-26s-14e, td 1600 ft, D. & A.

NORTH LOUISIANA

BOSSIER PARISH—Ark. La. Gas Co.'s R. O. Roy 3, 18-17n-11w, dr 3217 ft. Bossier O&G Co.'s Sherrell 3, se se 13-19n-12w, fsg ds 2025 ft. W. E. Neill et al's Curtis Plantation 1, se se 19-17n-12w, sd 235 ft. Producers O&G Co.'s E. C. Edwards 1, se sw 27-18n-11w, sd 714 ft. A. H. Richardson's Nattin 1, ne sw 15-22n-14w, spd and sd. L. R. Skidmore's Davis 1, se se 12-18n-13w, sd 2592 ft. Virgil Likens' Palmer 1, sw ne 1-21n-11w, dr 2254 ft.

CADDO PARISH(Rodessa)—Ark. La. Gas Co.'s Rodessa O&L Co. 3, se ne 22-23n-16w, 13⅜ in csg 265 ft, dr 2283 ft chalk. J. S. Teamer 1, sw se sw 13-23n-16w, setting 7-in csg 6044 ft, td 6105 ft. Eastern Prod. Co.'s & D. C. Richardson's Caddo School Bd. 1, swc block 35 (Rodessa townsite, 2-ac), 23-23n-16w, dr 4874 ft brown shale and strks lime. Haynes Prod. Co.'s W. B. Lawton 2, se nw sw 14-23n-16w, 12½ in csg 270 ft, dr 2261 ft chalk; H. Otwell 1, se se 15-23n16w, pb to 6023 ft, flowed 200 bbls oil and small amt. sw and bs per hr through 2-in choke for 23 hours, killed. T. F. Sexton 1, center 14-23n-16w, spd. Will Hall, Tr.'s Willis 1, lot 5, block 7, Rodessa townsite, 23-23n-16w, dk. Lion O&R Co.'s J. M. Wynn 1, 9-23n-15w, mim. R. W. Norton's Caddo Levee Bd. 1, se ne 21-23n-16w, dr 5167 ft, shale; Foscue 1, 20-23n-16w, lcn. Pelican Oil & Gasoline Co.'s Sexton 1, ne se 14-23n-16w, tested 70 mil ft gas and some oil, at 6035 ft, killed, 5-in csg cemtd 5981 ft, td 6035 ft. D. L. Perkins' W. J. Hunter 1, nw sw 13-23n-16w, mim. United Gas Pub. Serv. Co.'s Thomas Unit 1, ne nw nw 23-23n-16w, setting 7-in csg, td 6039 ft black shale. Wm. Bremer Unit 1, se nw sw 22-23n-16w, dr 5775 ft, lime and shale. G. Gibson Est. 1, se sw se 15-23n-16w, wocs 8⅝ in csg 5150 ft, td 5325 ft. Rodessa O&L Co. 1, se ne 15-23n-16w, 8⅝ in csg 5080 ft, dr 5720 ft, hd sand. Rodessa O&L Co. 2, ne ne 22-23n-16w, 13⅜ in csg 700 ft, dr 3904 ft shale and shells. Grady Vaughn's T. M. Comegys 1, se se 10-23n-16w, mim.

CADDO PARISH—Ed Bailey's Hartzo 1, ne nw 28-22n-16w, sd 1230 ft. F. H. Hyde et al's Thigpen-Herold 1, nw nw se 5-15-15, dr 1420 ft. A. D. King, Tr.'s Roach 1, 4-14n-16w, sd 2712 ft chalk. Tystan, Inc.'s Jolly 1, sw sw 22-22n-15w, dr 2035 ft.

CALDWELL PARISH—Critchett & Wood's Kyle 1, 18-11n-3e, dr 1728 ft. G. W. Zeigen et al's La. Cent. Lbr. Co. 1, nw sw sw 25-13n-3e, sd 1190 ft for water.

CATAHOULA PARISH—McIntyre et al's Tensas Delta 1, sw nw se 18-10n-2e, 10-in csg 340 ft, sd. Phillipi et al's La. Cent. Lbr. Co. 2, nw nw 41-9n-6e, dk.

CLAIBORNE PARISH — J. H. Lester's Zollie Green 1, nw ne nw 18-21n-6w, mim. E. T. Oakes et al's Patton Est. 1, ne ne 1-20n-5w, elev 357.3 ft, base chalk 2610 ft, dr 3015 ft sandy shale.

DE SOTO PARISH—Flesh & Hootkins' Farmer 1, se se 14-12n-13w, rur to kill and test so and sg, td 3135 ft. Frailey et al's J. E. Stell 1, 5-12n-16w, wocs 12-in csg 87 ft. C. T. Ruffin's Elmo P. Lee 2, nw sw 3-14n-13w, rur. M. L. Stephens et al's Alston 1, ne sw 11-11n-16w, wosr, td 2055 ft.

GRANT PARISH—Alexander et al's Maxwell 1, 9-9n-1e, sd 520 ft.

LINCOLN PARISH—Lide & Greer's Fowler 1, nw sw se 10-17n-4w, dr 5050 ft, anhydrite.

MADISON PARISH — Southern Land & Expl. Co.'s Deltic Inv. Co. 1, nw nw 1-17n-12e, sd 2048 ft.

MOREHOUSE PARISH — Zeigen & Bacon's Crossett Lbr. Co. 2, se sw 36-23n-6e, spd and sd.

NATCHITOCHES PARISH—Edwards & Turner's Prudential Life Ins. Co. 1, nw nw 26-10n-6w, rur. Howard & Kittrell's De Blieux 1, ne nw 83-10n-7w, dr 1485 ft. Missouri Drlg. Co.'s Brown Lbr. Co. 1, 5-10n-10w, sd 1070 ft. Roy Raines et al's Raines 1, sw sw 28-9n-10w, cored black shale 4215-32 ft, sd 4232 ft.

OUACHITA PARISH—American Liberty Oil Co.'s Golson 1, nw nw 25-17n-1e, dr 4987 ft.

SABINE PARISH—M. T. Hines' J. B. Hill 1, sw ne, claim so, sd 3012 ft.

WEBSTER PARISH—Burnett et al's Fulbright 1, ne ne 1-18n-10w, dr 1740 ft lime. Red Hawk Oil Co.'s J. I. Mayfield 1, se nw 9-23n-9w, dk and mir.

WINN PARISH—P. E. Parsons et al's Tremont Lbr. Co. 1, nw sw 10-12n-2w, top Cane River 960 ft, dr 980 ft.

SOUTH LOUISIANA

CALCASIEU PARISH—Buhler Oil Co.'s Faist 1, sec 26-8s-10w, dr shale 4025 ft. Union Sulphur Co.'s Prairie Farm Land 1, s of Lake Charles, sec 1-11s-9w, dr shale 8957 ft. Wheeler Oil Co.'s School Land 1, s of Iowa field, sec 16-9s-7w, dr shale 6781 ft.

CAMERON PARISH—Magnolia's Broussard 1, Willow Lake, sec 13-12s-9w woc 7604 ft.

EAST BATON ROUGE PARISH—Superior's Duplantier Community 1, s of Baton Rouge, sec 65-7s-1w, dr shale 9550 ft.

IBERIA PARISH—Texas Co.'s State Lake Fausse Point, sec 35-11s-8e, running an electrical logging device 6370 ft.

JEFFERSON DAVIS PARISH — H. M. Naylor's Boudreaux-Johnson 1, sec 39-10s-3w, dr shale 2932 ft.

PLAQUEMINES PARISH—Wrather Co.'s Hero 1, near Oakville, sec 72-14s-24e, dr shale 4350 ft.

ST. BERNARD PARISH — Emerald Pet. Co.'s Shell Beach Properties 1, Bayou Louis, sec 31-13s-15e, no report.

ST. MARTIN PARISH — Texas Co.'s St. Martin Land 1, Henderson , sec 9-8s-7e, abd 8986 ft. Texas Co.'s State Lake Mengoulois 1, n of Bayou Chene, sec 10-9s-9e, dr shale 2830 ft.

TERREBONNE PARISH—Dulac Oil Co.'s Harry Bourg 1, se of Lake Boudeaux, sec 10-20s-17e, dr shale 3465 ft.

MICHIGAN

MIDLAND COUNTY—Karl K. Leibrand's State 1, 15n-2e, ne ne-32, rig.

OGEMAW COUNTY—Strange and Fortney's State 1, 21n-2e, se ne ne-1, lcn. Goll-Graves-Mechling's Kerr 1, 23n-3e, sec 10, rig.

ALCONA COUNTY—V. R. Kirkham's Joz-

WANTED: *Oil Tool Salesman*

Wanted by manufacturer of drilling equipment, a real aggressive and active salesman to sell in Texas and Louisiana. Prefer young man with knowledge of Gulf Coast fields and good acquaintance in fields; and who is now employed by supply store. Real opportunity for the right man who wants a future with new growing company. Will pay salary, commission and furnish automobile. State age, experience, present connection, etc. All information will be kept confidential. Address, Box 43, c/o Oil Weekly, Houston, Texas.

wiak 1, 28n-9e-25, sg 385, sd; Lund 1, 27n-9e-23, testing 560 ft, sg.

ARENAC COUNTY—Deep River Oil Co.'s Stocky 1, 19n-4e-27, sd 2400 ft.

ALLEGAN COUNTY — Heath Oil Co.'s Terpstra 1, 3n-14w-34, dr 2200 ft.

BAY COUNTY—M. C. Fordye's Suszko 1, 18n-3e-11, dr 1550 ft. McClanahan Oil Co.'s Dahlke 1, 17n-4e, se sw sw-27, lcn.

GLADWIN COUNTY—United Producers Oil and Royalty Co.'s Nettleton 1, 17n-2e, nw sw ne-24, dr 400 ft.

GRATIOT COUNTY—Mid State Dev.'s Anderson 1, 11n-3w-20, Dundee 3246 ft, sd 3265 ft. St. Louis Pipe and Supply Co.'s Loganbach 1, 12n-2w-10, dr 1700 ft; Northeastern Mutual 1, 12n-4w-25, sd 2960 ft. Newark Oil & Gas Co.'s Beck 1, 10n-3w-29, dr 2890 ft. Bila Oil Co.'s Ryan 1, 10n-1w-32, sd 894 ft. Jackson and Myer's Garner 1, 9n-4w-10, dr 1300 ft. Charles Bell's Velie 1, 12n-1w-13, ru.

HURON COUNTY—Wallace Markle's Opaka 1, 15n-11e-4, sd 2400 ft.

IONIA COUNTY—Gordon Oil Co.'s Muir Bank 1, 8n-5w-30, sd 800 ft. J. V. Wicklund's Cutler 1, 8n-6w-10, dr 1315 ft.

KENT COUNTY—National Mineral's Lewis 1, 10n-11w-5, dr 900 ft.

LAPEER COUNTY—Kinnekenik Land Co.'s Watson 1, 8n-11e-17, dr 2100 ft.

MECOSTA COUNTY—Strosnider Oil Co.'s Hand 1, 13n-9w-4, sp.

MONTCALM COUNTY—Charles Van Kuren's Evans 1, 10n-5w-22, Monroe 3209 ft, so 3245 and 3296 ft, dr 3310 ft. Jones and Woodruff Oil Co.'s Martin 1, 11n-6w-29, sd 3200 ft. Jetter Oil Co.'s Long 1, 9n-6w-1, dr 1700 ft. Frank Asam's Pakes 1, 10n-6w-7, dr 260 ft. Rex Oil & Gas Co.'s Newland 1, 12n-8w-2, dr 2900 ft.

OSCEOLA COUNTY—Sun Oil Co.'s McLachlin 1, 17n-8w-35, dr 1700 ft.

ROSCOMMON COUNTY — Durham and Jones' Eggelston 1, 21n-2w-9, dr 1750 ft. Molloy-Regan-Oliver's Hilborn 1, 22n-1w-18, dr 700 ft.

SAGINAW COUNTY—King Drilling Co.'s Kube 1, 12n-2e-31, dr 960 ft.

WEXFORD COUNTY—M. J. Ingold's Webb 1, 22n-9w-13, testing so 3184 ft; Berthold 1, 22n-9w, se se nw-14, lcn.

MISSAUKE COUNTY—M. J. Ingold's Donley 1, 22n-8w, ne ne ne-31, lcn.

MISSISSIPPI

BOLIVAR COUNTY—White & Jones' Ballou 1, ne ne 18-24n-7w, sd 1614 ft.

FRANKLIN COUNTY—Fred E. Courson et al's Homochitto Lbr. Co. 1, se sw 31-6n-2e, dr 1050 ft.

GEORGE COUNTY—Gulf Ref. Co.'s Dantzler Lbr. Co. 8, 10-2s-9w, dr 3074 ft. United Gas Pub. Serv. Co.'s Williams 1, sw sw 6-1s-5w, spd.

HINDS COUNTY—Weaver & Alexander's McLaurin 1, nw nw 30-6n-2e, dr 700 ft.

LA FAYETTE COUNTY—W. L. Stewart et al's Russell 1, 9-10s-1w, spd dr 486 ft.

RANKIN COUNTY — Cleve Love et al's Mills 1, se sw 7-5n-2e, top chalk 2447 ft, elev 272 ft, arr dr plug in 5-in csg to test.

WINSTON COUNTY—Jack Vale's Moody 1, nw sw 3-13n-14e, elev 540 ft 6-in csg 2216 ft, td 2225 ft.

MONTANA

CARBON COUNTY—Bailey Round Butte Oil Co.'s Test 1, ne se 3-6s-23e, dr 1335 ft.

FERGUS COUNTY—Emmons et al's 1, ne se 6-20n-18e, dr 2115 ft. Judith Operating Co., Government 1, csw sw 26-22n-17e, dr 250 ft.

GALLATIN COUNTY—Montana Gas & Petroleum Co.'s Tice 1, ne ne ne 28-1n-2e, dr 2510 ft.

GLACIER COUNTY—The Royalite Co.'s Hagens 1, nw sw 4-31n-7w, lcn.

LIBERTY COUNTY — J. H. Hamilton Syndicate's Northern Farms 1, ne sw 10-37n-5e, recementing 8 in csg 2616 ft.

STILLWATER COUNTY — Continental's Parker 1, se sw 25-5s-17e, is dr 500 ft.

NEW MEXICO

CHAVES COUNTY — John Tannehill's Campbell 1, ne se 1-11s-25e, ur 8¼ in csg 820 ft to bottom 911 ft.

SANDOVAL COUNTY—Continental's L Bar Cattle Co. 1, se 2-13n-4w, dr 3300 ft.

QUAY COUNTY—Quay County Development Co.'s 1, csc sw 19-9n-33e, dr below 750 ft.

EDDY COUNTY — Geo. F. Getty Oil Co.'s Andrew Dooley 7, swc nw 24-20s-29e, elev 3309 ft, dr black lime at 6348 ft.

LEA COUNTY—Amerada's State 2-F, c nw sw 36-19s-36e, Monument area, elev 3600 ft, top anhydrite 1010 ft, base salt 2310 ft, will deepen from 3912 ft, where well gauged 322 bbls daily, swabbing and flowing; State 1-G, c sw sw 18-19s-37e, Monument area, top anhydrite 1263 ft, testing 4016 ft, ran 2½ tubing to 4006 ft. Barnsdall Oil Co.'s J. W. Cooper 1, c ne ne 12-20s-36e, Monument area, dr 272 ft, Red Beds, will run 12½-in cas. Culbertson & Irwin's Eva Brown 1, c ne ne 23-21s-32e, elev 3821 ft, top anhydrite 1415 ft, top salt 1580 ft, sd gray lime 3601 ft, waiting on orders; Sue Richardson 1, c sw se 10-21s-32e, elev 3808 ft, top anhydrite 1405 ft, top salt 1568 ft, base salt 3315 ft, dr gray lime 3503 ft. Gypsy Oil Co.'s Baxter V. Culp 1, c ne nw 19-19s-37e, Monument area, elev 3687 ft, set 7-in cas at 3765 ft, wocs; Graham State 1, Monument area, 660 ft nsl & 660 ft wel 2-20s-36e, mim; Steve B. Taylor 1, c se ne 24-18s-38e, 2¾ mi ne Hobbs field, bldg dk. Jeffers Oil Co.'s C. Britt-Conoco 1, c se nw 7-20s-37e, Monument area, elev 3554 ft, top anhydrite 970 ft, salt series 1115-2270 ft, td 2625 ft, lime, rur; C. M. Carlson 1, c nw se 27-25s-37e, elev 3025 ft, salt series 1065-2475 ft, gas show 2890 ft, dr below 3235 ft; Harry Leonard et al's C. W. Justis 1, swc nw nw 20-25s-37e, elev 3067 ft, waiting on casing, td 3395 ft, on drill stem test at 3255-95 ft, open 2 hrs, showed 540 ft drilling fluid. Jim Murray et al's W. J. Wallace 1, sec 3-21s-36e, ne outpost for Eunice area, elev 3563 ft, top anhydrite 1255 ft, td 3850 ft, will run 5½-in casing, had gas on drill stem tests at 3675-3720 and 3720-75 ft, little oil with gas at 3775-3850 ft. Phillips Pet. Co.'s B. V. Culp 1, c nw nw 19-19s-37e, Monument area, elev 3713 ft, set 7-in cas at 3787 ft, wocs, td 3802 ft, gray lime. Phillips & Pure Oil Co.'s Woolworth 1, lse 2, c ne nw 33-24s-37e, 3½ mi e of Cooper field, dr red rock at 609 ft; Woolworth 1, lse 3, c sw sw 6-25s-37e, North Jal area, elev 3781 ft, top brown lime 2700 ft, cem 7-in cas 3040 ft, td 3407 ft, swabbing and testing, est 1¼ mil. ft gas, tubing at 3360 ft Republic Prod. Co.'s Weir 1, 660 ft nsl, 1980 ft ewl, sec 35-19s-36e, w edge Monument area, rur Shell's State 1-B, c sw nw 36-19s-36e, Monument area, elev 3603 ft, set 7-in cas at 3775 ft, wocs. Superior Oil Co.'s State A-2, c nw ne 2-20s-36e, Monument area, bldg dk. Sun Oil Co.'s W. B. Maveety-Weir 3, c se ne 35-19s-36e, Monument area, dr 240 ft Red Beds; H. S. Record 1, c nw nw 22-22s-36e, s Eunice area, elev 3539 ft, top anhydrite 1490 ft, salt series 1592-3015 ft, top brown lime 3030 ft, dr 3790 ft, had oil show 3538-40, and gas on d.s. test at 3642-65 ft. The Texas Co.'s State E-1, c sw sw 1-20s-36e, Monument area, rur. TP Coal & Oil Co.'s State 1, lse 2, c se sw 9-22s-36e, s Eunice area, elev 3567 ft, top anhydrite 1408 ft, salt series 1499-2960 ft, td 3835 ft, lime, flowed 450 bbls in 24 hrs through 1-in choke on 3-in tubing, estimated 10 million ft gas, may treat again. Tide Water Oil Co.'s State 1, sec se ne 14-18s-37e, nw Hobbs field, elev 3689 ft, dr lime 3040 ft, had show gas 2980 ft.

OKLAHOMA

ALFALFA COUNTY—Tex-O-Kan's Acre 1, csw ne 14-24n-11w, whipstock 6250 ft, wocs.

ATOKA COUNTY—Vierson et al's Williams 1, ne sw nw 34-2s-10e, co 2236 ft. Mid-Continent et al's Fulton 1, sw sw sw 19-1s-12e, sd 3000 ft. Garner et al's Garner 1, ne nw ne 27-1n-15e, dr 490 ft.

BECKHAM COUNTY—Martin's Hood 1, cne nw 7-8n-23w, lcn.

BRYAN COUNTY—Trio Oil Co.'s Gilbert 1, sw ne sw 25-6s-7e, td 905 ft.

CADDO COUNTY—Denver P&R Co.'s Sah-Cam 1, cse se 33-10n-10w, milling at 6200 ft. Turner et al's Sapin 1, ne ne sw 1-5n-11w, dr 3118 ft.

CARTER COUNTY—Waco Turner's Munson 1, ne nw ne 35-5s-2w, td 5026 ft. Carter's Humble-Williams 1, sw ne sw 27-2s-3w, dr 7567 ft. Louis Sikes' Byrd 1, sw se sw 4-2s-2w, br.

CLEVELAND COUNTY — Hall-Briscoe, Inc.'s Fant 1, sw sw ne 27-10n-2w, dr 7000 ft. Arab Pet. Co.'s Kennedy 1, se se nw 16-7n-1e, dr 6666 ft. Sinclair Prairie et al's Lizzie Hasmann 1, sw se sw 21-10n-2w, dr 6680 ft. Asa Lee Mayes, Inc.'s Parsons 1, sw sw se 30-9n-1e, rig corners.

COAL COUNTY—Carter et al's Thompson 1, csl ne nw 34-2n-9e, dr 5730 ft.

COMANCHE COUNTY — Oscar Jones' Scheets 1, ne ne sw 26-3n-10w, ru and sd.

GARFIELD COUNTY—Sunray's Shanks 1, sw sw ne 10-20n-4w, br. Herndon Drlg. Co. et al's Whitaker 1, se se se 27-24n-3w, lcn.

GRANT COUNTY—Stanolind's Crouse 1, cne sw 29-25n-8w, sd 6502 ft. Shell's Foster 1, nw nw se 30-27n-8w, dr 4145 ft. Wentz et al's Wirtz 1, se se nw 22-28n-4w, td 4894 ft, wocs. Westgate Oil Co.'s Clark 1, nw ne nw 17-29n-4w, sd 4811 ft.

HARMON COUNTY — Whatley et al's Hamilton 1, nw nw se 25-4n-24w, lcn abd. Mathis' Keith 1, se nw sw 12-5n-26w, lcn abd.

HUGHES COUNTY—Texas Co.'s Keaton 1, nw nw sw 4-8n-10e, 650 ft oih. Earl Sadler's Scott 1, nw nw nw 23-7n-9e, sd 878 ft. Caprock Oil Co.'s Parks 1, sw sw se 34-7n-8e, sd 300 ft. Sivils et al's Montgomery 1, nw sw nw 7-9n-8e, rig.

JACKSON COUNTY—Gypsy's Boucher 1, nw sw sw 32-1n-19w, dr 2345 ft. Dengail Oil Co. et al's Robinson 1, se se ne 32-1s-22w, dr 5070 ft. Associated's Harrell 1-A, ne ne se 13-1s-21w, ur 8-in csg 1148 ft. Marshall & Burnham's Hess 1, ne sw ne 27-1s-20w, dr 1742 ft.

JEFFERSON COUNTY—Howell's Curry 1, se se sw 36-4s-9w, td 2501 ft, D&A. Barrett's Mose 1, cn½ nw sw 9-6s-7w, spd.

JOHNSTON COUNTY—Godfrey & Neff's Ned 1, se nw nw 29-4s-6e, lcn.

KAY COUNTY—Robinson Drlg. Co. et al's Hermes 1, sw sw nw 6-26n-4e, lowering 8-in csg 2645 ft. Lindsay's Waggoner 1, nw nw ne 3-27n-1e, td 4235 ft, D&A. Lewis Prod. Co.'s Hollenback 1, se ne se 18-27n-2e, dr 1650 ft.

KIOWA COUNTY—Connelly's McCord 1, nw se ne 15-1n-17w, sd 542 ft. Gilbreath's Shirlow 1, ne ne se 28-7n-20w, mach. Rajah et al's Stone 1, cse ne 34-7n-17w, sd 1476 ft, mach. moved out.

LE FLORE COUNTY — McGraw et al's Tidwell 1, cnw se 17-3n-22e, dr 220 ft.

LINCOLN COUNTY—Texas Co.'s Niccum 1, se sw nw 28-14n-5e, pb 3534 ft, wocs. Amerada and Stanolind's Connelly 1, se ne se 23-14n-2e, sd 5269 ft. Stanolind's Davison 1, nw nw nw 4-14n-3e, td 5105 ft, dr plugs, sso & g.

LOGAN COUNTY—Anderson-Kerr et al's Goodium 1, ne ne ne 15-15n-3w, dr 6080 ft. Anderson-Prichard and Buttram's Cavalt 1, nw sw se 22-16n-3w, dr 5300 ft. Stanolind-Amerada and Eason's Gragg 1, sw sw ne 20-18n-4w, fsg 1500 ft dr pipe in hole. Texas Co.'s Wood 1, sw sw ne 34-15n-4w, td 6280 ft, lost 8 joints 4-in dr pipe, cemented off, ru 6-in csg and dr by.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, dr 4500 ft.

NOBLE COUNTY—Atlantic et al's Strom 1, ne ne se 8-20n-1w, set 7-in csg 3665 ft, wocs.

OKFUSKEE COUNTY—Sunray's Culla 1, ne sw ne 13-12n-8e, dr 2350 ft. Sherry et al's Washington 1, sw sw ne 21-13n-7e, lcn.

OKLAHOMA COUNTY — Sinclair Prairie's Corbett 1, ne nw ne 17-13n-3w, pb 6673 ft, prod 90 bbls oil & 10,000,000 ft gas. Mabee's Duellbert 1, sw ne se 20-13n-3w, sd 6754 ft.

OSAGE COUNTY—J. A. Freeburg et al's 1, ne ne se 1-25n-6e, running 8-in csg 2080 ft. Texas Co.'s Osage 1, sw sw se 22-24n-6e, lcn.

PAWNEE COUNTY—Stanolind et al's Shunatana 1, ne nw se 32-22n-3e, td 4283 ft, abd.

PITTSBURG COUNTY—Vaughn Prod. Co. et al's Chunn 1, ne se nw 29-4n-14e, cellar.

PONTOTOC COUNTY—Continental's McCarthy 1, csw nw 12-1n-7e, set 7-in csg 3914 ft, wocs. McBride's Copeland 1, se se nw 31-4n-5e, dr 1175 ft. Delaney et al's Fox 1, nw se se 2-1n-7e, lcn. Leonard Williams et al's Breedon 1, nw nw nw 6-2n-5e, lcn abd.

POTTAWATOMIE COUNTY — Ross Oil Co. et al's Sparkman 1, se se ne 33-8n-4e, rig.

PUSHMATAHA COUNTY—C. W. Whitehead's Messer 1, se sw sw 35-3s-18e, dr 3418 ft.

SEMINOLE COUNTY — Van Deventer et al's Bender 1-A, ne ne sw 3-8n-8e, set 6-in csg 3170 ft, recemented. Verser-Clay et al's Thomas 1, ne se nw 1-6n-6e, sd 3030 ft. Scott & Smith's Abb 1, se nw se 4-6n-6e, dr 3410 ft. Deep Rock et al's Robert 1, sw nw nw 32-9n-8e, lcn.

STEPHENS COUNTY—Franklin & Duncan's Woolsey 1, nw nw se 10-3s-6w, dr 875 ft.

WASHITA COUNTY—McWhirter et al's Fee 1, nw sw sw 34-8n-19w, sd 1015 ft.

EAST TEXAS

ANDERSON COUNTY—Gulf's M. A. Davey-Royall 3 (162-ac), John Squyres sur, Camp Hill area, had Pecan Gap 3925-4190 ft, Austin chalk 4908-5107 ft, Subclarksville 5114-5123 ft, top Eagle Ford shale 5123 ft, on drill stem test at 5073-5117 ft in 15 minutes, through ¾-in choke, showed mud, oil, and salt water; E. T. McCain 1 (80-ac), P. Martin sur, Camp Hill area, Pecan Gap at 3900-4140 ft, top Austin chalk 4876 ft, dr 5048 ft. Tide Water and Texas Seaboard's N. N. Wills 21-A, Cayuga field Trinity test, elev 308 ft, cem 7-in cas 8750 ft, tested hot salt w at 8867 ft, coring around 9175 ft, expected to go at least to 10,000 ft; Shaw & Cern 2 (1216-ac), Daniel Parker sur, Long Lake area, dk; H. B. Keeling 1 (80.65-ac), Simon Sanchez sur No. 10, Long Lake area, elev 304 ft, showed salt water on drill stem test at 5386-5404 ft, set 5-3/16-in cas at 5380 ft, will perforate to test gas sand logged at 5244-5274 ft.

BOWIE COUNTY—Tex-Ark Oil Co.'s J. B. Hamilton 1 (40-ac), Jessie Milam sur, elev 272 ft, sd 1121 ft in shale. Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw of Dalby Springs, sd at 120 ft.

CAMP COUNTY—E. J. Moran, G. E. & Ray Hubbard's W. M. Mitchell 1 (100-ac), L. Rose sur, 1½ mi n of Newsome, lcn.

CASS COUNTY—American Liberty Oil Co.'s J. B. Rogers 1, C. M. Robinson sur, Rodessa area, lcn. Stanley A. Thompson et al's G. H. Allen 1 (150-ac), Wm. King sur, 3 mi s Hughes Springs, mim.

CHEROKEE COUNTY—Jacksonville O. & G. Co.'s Henderson 1, dr shale 1471 ft.

ELLIS COUNTY—Beasley O. & G. Co.'s Mrs. Erie Roller 1 (200-ac), Ruidoso Irrigation Co. sur, 1 mi s of Crisp, lcn.

FREESTONE COUNTY—Stewart & Watson's

S. A. Burleson-R. S. Red 1 (80-ac), J. Y. Aguilera sur, Red Lake area, had top broken Austin chalk 4347 ft, Pecan Gap 3243-3393 ft, drlg Austin at 4485 ft.

HENDERSON COUNTY — Kirby Pet. Co.'s C. L. Litchfield 1, I. Clendennen sur, nw edge Cayuga field, spudded.

HUNT COUNTY—J. F. Morrissey Co. Inc.'s P. B. Fry 1-A (146-ac), Calloway Davis sur, 7 mi se Ladonia, elev 561 ft, top Paluxy 3605 ft, top Red Beds 3806 ft, fsh at 4407 ft for dr pipe.

KAUFMAN COUNTY—Murray & Emerson's G. W. Martin 1 (100-ac), W. F. C. Butler sur, elev 429 ft, sd in rock 1784 ft.

LAMAR COUNTY—North Texas Synd. (E. T. Bradley, Tr.'s) Alice Wright 1 (163.3-ac), Alfred Moore sur, 2 mi ne Caviness, dk. Texas Gulf Pet. Co.'s A. L. Darnell 1 (40-ac), H. L. Williams sur, 4 mi ne Paris, r at 1824 ft in sand.

LEON COUNTY—Tide Water & Texas Seaboard's A. W. Johnson 1 (425.81-ac), Simon Sanchez sur No. 7, Long Lake area, cemented 9⅝-in cas at 2125 ft, top Pecan Gap at 3630 ft, dr 3730 ft chalk.

LIMESTONE COUNTY—Dan H. Daugherty et al's Sallie Welch 1 (94-ac), Pedro Verella sur, Austin chalk 2350-2650 ft, top Woodbine 2890 ft, td 3121 ft, used 1000 gals acid, tested gas and salt water, will dr ahead from 3121 ft.

MORRIS COUNTY—J. N. Buchanan et al's P. M. Staggers 1, J. D. Nelson sur, elev 363 ft, sd 4327 ft shale. C. M. "Dad" Joiner et al's fee 1, Wm. Coffey sur, lcn. Steve J. Rotondi et al's W. & C. Smith 1 (50-ac), M. C. Vela sur, 2½ mi sw Naples, sd 1761 ft. B. L. Watson et al's E. Hall 1 (177-ac), Levi Jordan sur, 5 mi ne Daingerfield, top sand 4175 ft, sd 4224 ft in red beds.

NAVARO COUNTY — L. N. McCulloch et al's Berry Bros. 1 (35-ac), W. W. Moss sur, Austin chalk 751-1060 ft, sd 1490 ft. Wiggins-Albritton & Wiggins' D. A. Donoho 1 (63½-ac), Highnote & Caudle sur, 2 mi sw Corsicana, elev 467 ft, sd at 1439 ft, after bailing dry.

RAINS COUNTY—W. A. Allen, Geo. W. McClung & Harry B. Baker's Ida Bullard 1 (75-ac), Nancy Brantley sur, 2 mi sw Emory, dk; S. P. Cain 1 (98½-ac) J. Harges sur, A-109, 1 mi nw Emory, lcn; Mrs. Olma Giles 1 (77-ac), Thos. Cunningham sur, 6½ mi sw Emory, dk.

RED RIVER COUNTY—W. G. Clark and R. H. Chew's J. F. Brooks 1 (321-ac), Ben Gooch sur, ½ mi s Bagswell, lcn. Garson & Seigel's W. T. Morris 1 (351-ac), Joseph Guest sur, 1 mi s Detroit, ru. Joiner et al's Rust 1, dk.

RUSK COUNTY — J. W. Shipman et al's Citizens Nat'l Bank 1 (125-ac), J. J. Y'Barbo sur, 4 mi ne Henderson, elev 432 ft, dr shale 3200 ft.

SOUTH TEXAS

ATASCOSA COUNTY—R. McIntyre's H. A. Billinck 1, J. B. Woodleff sur, No. 246, 7½ mi e Coughran, lcn.

BANDERA COUNTY — Palm Winn Oil Co.'s R. B. Watson 1, A. Curver sur, No. 71, 2 mi n Medina City, td 2035 ft, re-set 6⅝ csg. Plateau Oil Co.'s R. G. Garrison 1, sec 506, GC&SF sur, 8 mi sw Medina City, elev 1831 ft df, sd 4257 ft for ds.

BASTROP COUNTY—Batts & Jarmon's Harris 1, J. Maximillian sur, N. Dale area, elev 432 ft, df, running liner 2285 ft, S.L.M. Joe Mills' American National 1, R. Gage sur, N. Cedar Creek area, abn 1918 ft. F. Wilson's M. C. Callahan 1, A. Mayes sur, dr 2083 ft.

BEE COUNTY—Mills Bennett's Rapp 2, C. A. Dugat sur, ab 521, w outpost Dirks field, dr 1500 ft. G. M. Church's J. C. Woods 1, J. Ryan sur, 3½ mi s Beeville, tried to blow-out 5810-14 ft, set 5 in csg on bottom, cored to 5827 ft, running liner to test. Otis Dyer's Hall 1, T. J. Butler sur, n Dirks field, dr 3820 ft. Rube Heflin's Brashear 1, Henry Coley sur, 1 mi ne Mineral, dr 3950 ft. Illinois Pet. Co. et al's Rapp 1, C. A. Dugar sur, w side Dirks field, comp 3842 ft, initial production 27 BPH. Littlejohn et al's Borroum 1, Wm. Gill sur, ½ mi nw Rutledge pool, elev 384 ft df, dr 3475 ft, Pettus sand 3327-47 ft, show sw. D. V. Smith's B. B. Atkins 1, M. Woods sur, lcn. Worth Oil Co.'s Rutledge 3 (1-B), Z. Hadley sur, Patent 34, 1/3 mi sw Rutledge pool, sp. R. J. Worthington et al's S. B. Chestnut 1, B. Q. Hadley sur, 2000 ft se Worth well, set sur pipe.

BEXAR COUNTY — American Gas Co.'s Oliver 5, M. F. Rodriquez sur, Gas Ridge, sd 2902 ft. James B. Cunningham et al's D. F. Ridder 1, Baerrera sur, abs 50, 2 mi e McDonna, dr 600 ft. Fay T. Chew et al's Jones 5, sec 9, Jacinto Pena sur, 1½ mi e Adkins, pulled tubing 695 ft; Bonkowski 1, in 130-ac tr, sec 9, Jacinto Pena sur, 1½ mi e Adkins, lcn for 1250-ft test. Dorine Oil Co.'s S. Tudyk 2, blk 4, F. Cardenas sur, 18 mi e San Antonio, td 759 ft, set csg 575 ft, still bailing. Joe Deupree's R. S. Coffey 1, F. Rodriquez sur, 7 mi s of San Antonio, lost hole 303 ft, skid 10 ft and dr 45 ft new hole. C. J. LeCompte's A. Herbst 1, M. Leal sur, 4 mi s San Antonio, sd 377 ft. McPhee & Briggs' Florence Lamb 1, M. de Luna sur No. 4, 22 mi s San Antonio, coring 2370 ft, 6⅝ in csg 2330 ft. Mid-Tex Prod. Co.'s Walker 1, S. W. Dobie sur No. 79, 10 mi n San Antonio, r 1915 ft to set 8¼ in csg. Carrol C. Raborn's Claud McCauley 1, Wm. Harris sur No. 52, 4 mi s San Antonio, sd 965 ft. F. M. Shaver's A. W. Bitter 1, sp and sd.

BLANCO COUNTY—R. T. Rowe & W. E. Nixon's Polk Morresey 1, T. H. Webb sur No. 11, 2½ mi e Blanco City, sd 356 ft.

BROOKS COUNTY—United Prod. Co.'s K. J. Hocker 1, Palo Blanco de Maguelles gr, Palo Blanco area, coring 4925 ft.

CALDWELL COUNTY—Ballard & Whitting's A. G. Bridges 1, S. Seal sur, td 2204 ft, top chalk 2048 ft, hole bridged, prep to co. R. S. Bolling and C. L. Witherspoon's C. F. Robertson 1, John A. Neill sur, td 2230 ft, top chalk 1922 ft, csg 1945 ft, prod abt 8 BPD, acidized and completing. J. J. Elam et al's Tom Brown 1, Cyrus Souvereign sur, 5 mi e Luling, dk. R. Y. Walker's Walker Bros. 2, S. Seal sur, sd 385 ft.

CALHOUN COUNTY — Continental's Am. Nat'l Realty Co. (Moody) 2, sec 6, blk C. P. Garcia sur, 9 mi se Seadrift, milling 7384 ft. Crown Central's Wilson 1, A. Esparza sur, Port Lavaca area, dr 4950 ft. Halliburton Oil Prod. Co.'s D. Burton 4, M. Sanchez sur, Port Lavaca area, dr 5225 ft. Matagorda Oil Corp.'s Brundrett Est. 1, lot No. 294, Brundrett Estate, J. Power and J. W. Hewitson League 2, Matagorda Island, set 16 in csg 176 ft. Steinberger Pet. Corp.'s A. Hartman 1, A. Sanches sur, Port Lavaca, dst 6218-40 ft, show 17 fourbles oil, 80 lbs pressure, 20 min, set csg, wocs. Texas Co.'s A. Shofner 2, A. Sanches sur, Port Lavaca, dr 2000 ft.

CAMERON COUNTY—J. F. Anderson's Turfitt 1, blk 397, San Benito sub, Espiritu Santo gr, 3 mi ne Rio Hondo, dr 3500 ft. W. T. Daniels and King-Woods Oil Co.'s Port Isabel Co. 1, shares 29, 30 and 31, 6 mi n Bayview, sp and sd.

DE WITT COUNTY—R. Bourke's Steinman 1, Uriah Blue sur, 6 mi s Yoakum, dr 1925 ft.

DIMMIT COUNTY — Diamond Half Oil Co.'s A. Hardley Est. 1, R. G. Morgandale sur No. 6, ab 1322, 5½ mi nw Carrizo Springs, 1, dr 1200 ft. Joe Lundin et al's Nueces Landa Irrigation Co. 1, lost 16, blk 7, Bermuda Land sub, 12 mi ne Carrizo Springs, lcn, leases extended.

DUVAL COUNTY—Allen & Morris' J. T. Dinn 1, sec 665, near Kohler field, dr 3250 ft. California Co.'s Gruy Est. 1, 330 ft nl, 2597 ft wl of sec 157, in Kohler area, lcn. Continental's Sevier 6-A, sec 447, Driscoll field, dr 1450 ft. J. H. Chandler's Rita de Pena 1, sh 4, Mesquite gr, elev 665 df, dr 3170 ft. P. K. Kelly's Tinney Est. 1, sec 8, Piedras Pintas area, sd 378 ft; Chas. Kleiner et al's D. Ruiz 1, sec 125, nw Harvey & Henderson well, dr below sur csg. Magnolia's Duval Ranch 2, sec 100, rur; Emil Labbe 1, Labbe district, making lcn. Marzo Oil Co.'s Hagist 1, blk 8, sec 269, 1 mi ne Eagle Hill, elev 460 df, Gov't Wells sand shut in for storage. Plymouth Oil Co.'s Cuellar 1, sec 123, G&M Railway sur, 1 mi s Harvey & Henderson well, junked 1971 ft. Rogers O&G Co.'s Sophie Hoffman 1, sec 118, Hoffman area, elev 651 ft, df, td 2880 ft, pb 2800 ft, perforate csg 2755-69 ft, comp as gasser. Santa Clara Oil Co.'s Sevier 1, sec 7, ab 605, La Gloria Ranch, 12 mi w San Diego, elev 560 ft, dr 3390 ft, hard sand rocks. R. C. Corbitt 1, sec 92, GH&H RR sur, ne portion county, ru. Sun's Warden & Drought 2, 1500 ft el, 110 ft nl, sec 151, 6 mi nw Gov't Wells, sp; J. O. Sutherland 1, sec 122, Hoffman area, lcn. Stanolind's Yates 1, sec 416, Labbe area, dd from 2465 ft, now dr 2558 ft.

EDWARDS COUNTY—Paul Teas' B. J. Stewart 1, se¼ sec 2, GC&SF sur, lcn for 6000-ft test.

FRIO COUNTY—W. D. Bacon et al's J. E. Burns 1, T. H. Clifton sur, sw Bigfoot, sp. Midland Oil Co.'s Halff & Oppenheimer 1, se½ sec. 11, John Gibson sur, nw Pearsall, ru.

GOLIAD COUNTY — Brown & Wheeler's Kauffman 1-C, 990 ft sel, 330 ft swl of blk 14, G. Southerland sur, Hords Creek, sp. Keystone Royalties Co.'s C. B. Wood 2, John Shearn sur, 3 mi e Berclair, dk.

GONZALES COUNTY—Forrester Oil Co.'s H. B. Steen 1, N. M. Bane sur, s part of county, sd 150 ft. Inter-Allied Pet. Corp.'s C. M. Wells 1, tr 3, sub 1, Jose de la Baume sur, sp. Resource Oil Co.'s Otto Lanbeck 1, J. M. Salinas sur, 3 mi w Gonzales, sp and sd.

GUADALUPE COUNTY—J. E. Clark's J. F. Larison 1, G. Dewitt sur, ab 16, 330 ft sw Clark's Lay 1, dr 2000 ft. F. N. Gallagher's W. B. Lay 1, J. K. Davis sur, ru. Gode et al's Hicks 1, Santos Coy, elev 808 ft, dr 1575 ft, Glenrose. Grace et al's O. S. Ogletree 1, Robt. Smith sur, 1 mi sw Prairie Lea, sd 2245 ft. Jim Harper et al's J. Z. Fulcher 3, Robt. Smith sur, 2 mi nw Prairie Lea, dr 1050 ft. A. D. Locke's Lowman 1, C. Campbell lg, 1½ mi sw Stephen, sd 1810 ft. Mineral Corp. of Texas' Phillips 1, Cortines sur, 10 mi sw Seguin, sd 868 ft. Suttle et al's Baenzinger 1, A. O. Manchola sur, sd 2155 ft. W. A. Scrutchins' A. H. Smith 1, J. B. Cowan sur, W. Staples, abn 765 ft.

HIDALGO COUNTY—Cortez Oil Co.'s F. B. Guerra 1, tr 12, por 41, ne of Samfordyce field, gas sand 2706-53 ft, shale 2753-58 ft, oil sand 2758-65 ft, dst 2760-65 ft, show 15 fourbles oil 15 min, set csg, wocs. D. M. C. Oil Co.'s Daskem 1, blk 34, por 45, 4½ mi ne Samfordyce field, td 4114 ft, pb 3200 ft, dr out 3255 ft, cement did not hold, re-cement and will dr out to 3217 ft. S. J. Sloan et al's Brock & Showers 1, lot 9, blk 16, por 80, Juris of Reynosa, w of Mission, re-dr 3610 ft. Stevens & Mundy's Guerra 1, tr 12, por 41, 2000 ft n Samfordyce field, elev 188 ft, td 3025 ft, prep to set csg 2800 ft. Union Sulphur Co.'s ARGL &I Co. 4, lot 1, blk 99, N. Capisallo district, Llano Grande gr, 1½ mi sw discovery, td 7757 ft, perf cas 7741-56 ft, show sw, prep to pb and perforate again; ARGL&I Co. 5, lot 2082, N. Capisallo district, Llano Grande gr, coring 7325 ft.

JIM HOGG COUNTY—Macon Pet. Co.'s Y. Gomea 1, Sec 1005, dr 1075 ft. Miller et al's Yeager 1, blk 6, sec 20, ds stuck 3530 ft, trying to recover. Phillips et al's Allen 1, blk 293, Pippin sub, Randado gr, sd 42 ft. G. C. Rankins' Vela 1, blk 6, sec 5, sd 50 ft.

KARNES COUNTY—Gar Oil Co.'s (G. A. Ray), W. H. Radford 3, M. Nichols sur, 2 mi ne Burnell field, dr 3125 ft. Mart Pet. Corp.'s Cochran 1, McConnell League, sp and sd.

KENDALL COUNTY — J. E. Freeman's Gerfer's 1, Mark Hodgson sur, No. 796, sd 102 ft. Southwestern Dev. Synd.'s Werner 1, Torrey sur No. 781, Sisterdale area, td 710 ft, sd 650 ft, sdtr.

KERR COUNTY—Auld & Evans' Heffner 1, 660 ft nl, 330 ft el, sec 13, BS&F sur, mim. Jeff Love & Eastland Oil Co.'s Jeff Love 5-E, Martinez sur, sec 1594, ½ mi se original Love Ranch test, prep to lower csg to 5625 ft.

KIMBLE COUNTY — Forest Dev. Co.'s Stapp 1, 1880 ft nl, 660 ft el of sec 682, lcn.

KLEBERG COUNTY—Harry Clark's Rogers 1, lot 1, blk 36, Kleberg sub, sd 750 ft. Fidelity Explo. Synd.'s O'Henry 1, lot 2, sec 49, KT&I sur, td 3027 ft, pb 2640 ft, sd. R. G. Flato's Trustee 1, blk 14, sec 40, KT&I sur, Kingsville area, lcn. Parr & Ponder's Sam Michalk et al 1, lot 5, blk 37, KT&I sur, sd 1983 ft.

LA SALLE COUNTY—O. N. Beer and C. L. Witherspoon's La Salle Co. 1, 1320 ft sl and wl sec 19, near Fowlerton, dr water well.

LAVACA COUNTY—Wheelock & Collins' Pohl 1, Moses Wooten sur, 12 mi se Hallettsville, abn 5000 ft.

LEE COUNTY—Douglas Spivey et al's First Nat'l Bank (T. S. Henderson) 1, Wm. L. Mock sur, lcn.

LIVE OAK COUNTY — Benco Oil Co.'s Eliz Mahoney 1, Mark Killely sur, 3 mi w Three Rivers, sd 78 ft. Earl Callaway et al's W. R. Lyne 1, sec 74, M. M. Lyne sur, ab 763, mim; Moozegemba 1, lot 122, Geo. Est sub, blk A, ab 113, S. L. Williams sur, lcn. Conway & Buescher's Sanger 1, GC&SF sur No. 383, ab 636, 15 mi sw George West, sd for water. Houston Oil Co.'s G. Frederick 1, blk 16, Jane Curry sur, North Lucas area, coring 5900 ft; Frederick 2, blk 19, Jane Curry sur, ru; Frederick 3, blk 9, Jane Curry sur, dr 5232 ft. Smith & Story's Dinero Townsite 1-A, Jane Curry sur, North Lucas area, sd 5268 ft. J. O. Whittington's Little 3, M. M. Shipp sur, 660 ft sw discovery well, N. Lucas area, sd 2100 ft, boiler repairs.

MAVERICK COUNTY — Thompson & Streeter's Joseph Wipff 1, sec 18, 7 mi w Chittim field, 10 mi n Eagle Pass, sd 220 ft.

McMULLEN COUNTY—Aransas Oil Co.'s M. H. Reed 1, J. A. Spicer sur No. 70, 12 mi sw Tilden, sd 1681 ft. Bussa Oil Co.'s Horton 1, A. Jean sur No. 20, 3 mi sw Tilden, sd 1754 ft. Carruth & Hagen's Lange 1, M. Hely sur, 2 mi se Calliham field, td 1403 ft, pb gas sand 1123-42 ft, abn. L. O. Gleason's Fitzpatrick 1, J. A. Loving sur No. 52, coring 850 ft. Howard & Carpenter's Jungman 1, M. Hely sur, sd 1210 ft. L. D. Ormsby's Griffith 4, Osborne sur No. 50, sd 122 ft; Griffith 5, Osborne sur No. 50, abd 950 ft. C. W. Points et al's Fahler 1, Geo. Pittuck sur, 5 mi w Calliham, sd 1004 ft. Stephenson & Wuest's Fisher 1, R. O. O'Boyle sur, nw of Calliham, dr 400 ft. Wilkerson & Lightfoot's H. L. Lark 6, blk 113, Lark sub, Scrugham sur, 450 ft.

MEDINA COUNTY—Frank A. Brown's Brueks 1, John Ward sur, dr 375 ft. Caroco Oil Co.'s (Callahan & Roberts) H. Taylor 2, A. Brushet sur No. 135, 5 mi sw Hondo, dr 275 ft. Joe Deupree's Hugo Batot 2, John Ball sur No. 1478, 7 mi sw Hondo, dr 250 ft. E. J. Deupree's L. J. Brucks 1, Henry Castro sur No. 248, dr 460 ft. Eckert & Son's M. Keller 1, 215 ft nl, 2684 ft wl of 230-ac tr, Northington sur No. 8, dr 500 ft. Gates & Hill's Odom

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2, H. Castro sur No. 174, 5 mi sw Hondo, sd 262 ft. Letro Oil Corp.'s F. B. Forest 1, sec 69, 1½ mi ne Ina Field, 1½ mi Adams field, dr 375 ft. Scoggins and Sanders' L. W. Burell 1, M. E. Gage sur, elev 867 ft, owdd, former td 1826 ft, ru to dd.

NUECES COUNTY—J. K. Culton's H. B. Baldwin et al 1, 330 ft nl, 485 ft el of 85-8 ac tr in blk 20, Russell Farm Blocks, 1½ mi w Corpus Christi, dk. A. F. Holliday's F. J. Smith 2-A, CEPI&N sur, Saxet area, sand 5785-92 ft, gasser, spraying 1 BPH high-gravity oil, 2275 lbs pressure, ⅜-in choke. La Jita Corp.'s Richard King Est. 1, se sec 22, Richard Ranch sub, ne discovery well, King field, dr 5270 ft. Magnolia's Bobby Baldwin 2, BS&F sur No. 165, 3000 ft sw discovery, dr 5017 ft, shale; Bobby Baldwin 3, BS&F sur, No. 165, sand 3872-76 ft, dst 520 ft plo ¼ and ⅜ chokes, 15 min, set 7 -in csg. Richardson & Thomas' Page Bros. 1, Geo. Franks sub, w Saxet field, coring 4700 ft. Shell's Ed. F. Flato 1, trs 9 and 10, H. H. Sheppard Farm Lots, dr 5335 ft. Texon Royalty Co. et al's L. M. Vance 1, Thos. Gallagher sur, ab 988, ¾ mi s Saxet field, 6075 ft, pb and set csg 3500 ft, perf 3165-68 ft, test sw, pb to perf 3125 ft. Violet Oil Co.'s J. W. Gallagher 1, John H. Smith sur No. 25, sand 4059-70 ft, set csg, dr plugs.

REAL COUNTY—H. J. Heartwell et al's L. J. Haby 2, AB&M sur No. 175, 10 ft sand just below 3220 ft, prep to shoot and test.

SAN PATRICIO COUNTY—Argo Royalty Co. and Willie Storm's Nancy Hobbs 1, Delgado gr, 1 mi s Mathis, sd 3520 ft.

STARR COUNTY—Ash & Tackett's Margo 1, 150 ft sl and el blk 4, sh 3-B, por 70, sd 325 ft. Barnsdall and Phillips' Yturri L&C Co. 1, por 100, 660 ft nw of Samfordyce production, sand 2797-2806 ft, perf ssg 2798-2805 ft, comp 112 BPD 3/32-in ch. Evans & James' Terry 3, por 76, s of State Highway, sp. Pedernal Oil Co.'s Welch 1, lot 3, Welch sub, El Pedernal gr, abnd 1220 ft, dst 1208-20 ft, show oil and sulphur water; Welch 2, 330 ft nl and el lot 3, Welch sub, El Pedernal gr, ru.

TRAVIS COUNTY—G. A. Arts' Rolff 1, Thos. Hancock sur No. 20, ½ mi n Sweden, sd 860 ft. W. F. Billingslea's Lungrin, Kimbro sur, blk 17, cored serpentine 660-70 ft, comp 40 BPD . C. B. Collard's J. Blomberg 1, 840 ft sel, 150 ft nel 99-ac tr, Windburn sur, sd 660 ft. Paul Crawford et al's Stemholm 1, J. B. Kempe sur, n of Manda field, dr 920 ft. J. E. Robertson et al's J. F. Smith 1, L. Kimbro sur, serpentine 700-15 ft, bailed down 90 ft oil in hole, could not lower, completing.

VICTORIA COUNTY—Eastern Texas Oil Co.'s Henderson & Pickering 1, blk 19, Benavides sur, Placedo area, td 6029 ft, 7 in csg set 4806 ft, pb 4700 ft, now dr out to 4750½ ft, perf 4744-47 ft, completing; J. E. Schovajsa 1, lot 14, Rupley sur, Placedo area, td 4789 ft, ru to dd to 6000 ft sand. Martex Oil Co.'s Mitchell 1, E. Benevides sur, ¾ mi se Placedo discovery, td 6050 ft, pb 5339 ft, abd. Sun's J. J. Marek 1, SA&MG Ry. sur No. 9, Placedo area, td 4777 ft, 7 in csg set 4757 ft, completing. Texas Co. et al's J. J. Warden 1, Edward McDonough lg, 12 mi s Victoria, td 5629 ft, pb 4200 ft, will sdtr and dr to sand 4488-4500 ft.

WEBB COUNTY—D. E. C. Oil Co.'s Slator Ranch 1, blk 29, Mission Oil Company sub, Slator Ranch, J. S. Borrego gr, dr 150 ft. O. W. Killam's A. M. Bruni 40, blk 32, sec 10, Foltz sub, Mariana Arispe gr, sw Cole 2700 foot prod, dr 500 ft. C. H. Lewis et al's E. Lopez 1, sur 110, 2 mi s of Lopez field, ru. Magnolia's Volpe Bros. 1, 330 ft nl and wl sec 485, n of Carolina-Texas field, ru. R. E. Misner's Garcia 1, se sec 457, dr 500 ft. James Neal et al's Laurel 1, sec 1119, CCSD & RGNG sur, 3 mi e Mirando City field, lcn. South Texas Oil Co.'s Laurel 1-A, blk 2, sur No. 269, Laurel area, coring 2610 ft. W. H. Vernor, Tr.'s, Jeffries Ranch 1, blk 13, sec 1453, 30 mi nw Laredo, sd 40 ft. A. H. Wray's Geo. Steumpke 1, sh 1, Brewster Pasture, Joaquin Galan grant, td 1156 ft, mir.

WILLACY COUNTY — King-Woods Oil Co.'s Stillman Ranch 1, lot 16, blk 30, sh 44, Stillman Ranch sur, San Juan Carricitos gr, td 6516 ft, prep to run electric formation test. L. & S. Drlg. Co. and South Texas Dev. Co.'s F. Armendiez 1-A, Little Share 4, sd 5300 ft.

WILLIAMSON COUNTY—Fuch & Walters' F. Ollman 1, Bevil sur No. 56, sd 875 ft. Glass Bros.' A. Albert 1, P. Coursey sur, sd 785 ft. H. F. Goff et al's A. Klotz 1, W. Cartwright sur, abd 1409 ft. Kophman et al's Kruger 1, B. G. Bevil sur No. 56, N. Byersville field, dr 1115 ft. Rule et al's Bochmeyer (Rummell) P. Cartwright sur, sd 800 ft.

ZAPATA COUNTY—H. F. Crow's B. Uribe 1, blk 35, sub of sh 11, por 4 and 5, San Ignacio sub, J. V. Borrego gr, lcn; Yzaguirre 1, sh 17, por 15, Lopena area, sd 280 ft. Humble's E. Dominguez 1, por 31, dr 4980 ft. J. J. O'Hern et al's Vela 1, blk 2, por 27, 7 mi ne of Charco Redondo field, sp. Joe Palmer's Emma Markrud 1, blk 22, sec 616, sd 1270 ft. SR&C Oil Corp.'s Trevino 15-A, 800 ft nl, 200 ft wl, blk 8, sec 66, Escobas field, deep test, dr 1763 ft.

TEXAS GULF COAST

ANGELINA COUNTY — Y. D. Spell's Thompson 1, J. Williams sur, running casing to make a production test at 2471 feet.

AUSTIN COUNTY—Deering & Kayser's McClenton 1, se of Bellville, T. Bell sur, stuck drill stem at 3495 ft.

BRAZORIA COUNTY—Harrison & Abercrombie's Bernard River Land Co. 2, Old Ocean, C. Breen sur, fsh 4900 ft.

CHAMBERS COUNTY—J. L. Johnson & W. F. Anderson's White 1, 2 mi n of Anahuac field, J. McGhehe sur, dk. C. B. Bunte's Simon 1, 4½ mi ne of Anahuac field, T&NO sur, sec 33, abd 7788 ft. Woodley Pet. Co.'s A. G. Blanke 1, 1¾ mi ne of Anahuac field, H&TC sur, sec 41, dr shale 4968 ft.

COLORADO COUNTY—Clyde Creighton et al's H. Witte 1, s of Bernardo, H. Witte sur, dr sand rock at 1600 ft.

FT. BEND COUNTY—Thompson Drlg. Co.'s Brown 1, Pilant Lake, G. Menefee sur, dr shale 2990 ft.

HARRIS COUNTY—E. E. Young's Griffith 2, w of Humble, A. R. Bodeman sur, dr sand rock 3495 ft.

JEFFERSON COUNTY—Sun's Hebert & Broussard 1, s of Lovall Lake, B. Blackmon sur, dr shale 7903 ft.

LIBERTY COUNTY—A. L. Maxwell et al's M. P. Hincliff 1, 2 mi ne of Cleveland, H&TC Co. sur No. 105, abd 5574 ft.

MATAGORDA COUNTY—H. M. Smith Corp.'s Wadsworth Estate 1, S. R. Fisher sur, dr sand 8611 ft. Sterling Oil & Refining Co.'s Baer 1, sw of Sergant, S. Hoit sur, dr clay 500 ft.

MONTGOMERY COUNTY—Ameitexa Oil Co.'s T. Foster Estate 1, n of Travis-Baker's Foster 1, J. M. De La Garza sur, dr shale 4666 ft. W. O. Belnoski's Foster Estate 1, sw of Willis, W. Starrock sur, sd 3620 ft. Mid-Tex Oil Co.'s Delta Land & Timber Co. 1, w of Willis, R. T. Oliver sur, abd 4026 ft. Geo. E. Smith's Delta Land & Timber Co. 1, w of Mid-Tex Oil Co.'s Delta Land 1, McBride sur, abd 4228 ft. Wm. Thompson et al's J. B. Scott 1, R. Wheeler sur, dr shale 2306 ft. Turnbull & Irwin's Carr 1, Tamina, C. Allen sur, dr shale 3339 ft.

ORANGE COUNTY—Coker Oil Co.'s G. T. Mansfield 1, s of Vidor, J. W. Hill sur, sd 920 ft. Blue Line Oil Co.'s J. E. Peet 1, n of Orange, R. Ballew sur, dr shale 960 ft.

TRINITY COUNTY—Gulf's Trinity Lbr. Co. 1, nwc of county, O. Peterson sur, stuck drill stem at 3588 ft.

SAN JACINTO COUNTY — Darby-Jones-McBee Drilling Co.'s J. R. Bennett 1-A, D. Beer sur, dr shale 4464 ft.

TRINITY COUNTY — Bundy Oil Co.'s Thompson 1, J. Cevallos sur, dr shale 2350 ft.

WASHINGTON COUNTY—C. J. Lass et al's T. Weinert 1, se of Burton, T. T. Bordon sur, dr shale 3774 ft.

WHARTON COUNTY—Navarro Oil Co.'s E. P. Schoelman 1, Mancha prospect, N. Mancha sur, dr shale 7015 ft. Pure's E. Page 1, Blue Basin prospect, E. Pierce sur, dr shale 1420 ft. Sterling Oil & Refining Co.'s F. Janek 1, East Bernard prospect, J. Scott sur, dr shale 8285 ft. Texas Co.'s Pierce C-1, 8 mi se of Pickett Ridge field, J. Caldwell sur, dr shale 1868 ft.

WYOMING

BIG HORN COUNTY—J. W. Bale's Parker 1, csw sw 23-49n-89w, is dr 435 ft.

CARBON COUNTY — General Petroleum Whitford 1, sw se ne 24-20n-84w, is coring 5172 ft. Shirley-Wyoming Oil Co.'s Quealy 1, nw nw ne 21-26n-80w, rigging up.

CONVERSE COUNTY — Chadron-Osage Oil Co.'s State 1, cne 16-32n-69w, is dr 1100 ft. John Ackard's Daniels 1, sw sw se 17-32n-71w, is dr 2878 ft.

FREMONT COUNTY—Monogahelia and S. Keoughan's Wisda 1, ne se 13-26n-103w, dr at 4725 ft.

NIOBRARA COUNTY—Riggs Oil Co.'s Spaugh 1, nw nw nw 4-33n-65w, dr 760 ft.

PARK COUNTY—Geo. T. Beck's No. 1, nw se nw 27-53n-101w, testing oil show 1331 ft.

WESTON COUNTY — Conway Oil Co.'s Government 1, se se nw 7-41n-60w, fsg for tools and bailer 2087 ft. O'Brien & Wakeman's Sternberg 3, se 31-45n-62w, completed as a water well in the Dakota sand 330 ft.

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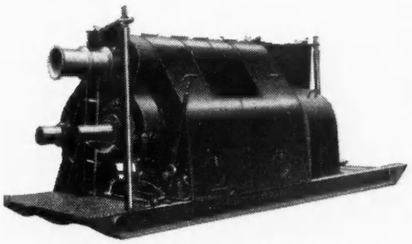
American Well & Prospecting Co.

American Well & Prospecting Company, Corsicana, Texas, has announced a new type of unitized draw works that was designed for the great strength required in handling long strings of heavy drill pipe. The unit weighs 30,000 pounds complete, less chains and wire line, is 20 feet long, eight feet wide and seven feet four inches high. The line shaft is forged, turned and ground, with provision for cathead on each end of the shaft. The line shaft boxes are of cast steel, 13 inches long, and are lined with high grade babbitt.



American Draw Works

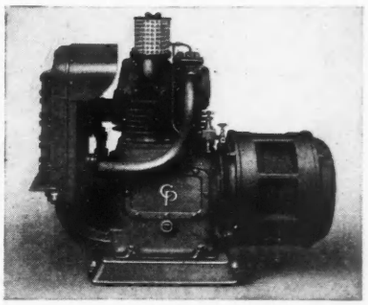
The drum shaft is forged, turned and ground, is eight inches in diameter at low speed sprocket and clutch block, drum and second speed sprocket; 6 5/16 inches in diameter at bearings, and 6¼ inches at third speed sprocket and clutch block. The drum shaft boxes are of cast steel and are equipped with large, heavy duty roller bearings. The boxes are of the self-aligning type. The roller bearings are fully enclosed and are pressure lubricated.

The cathead shaft is placed in front of posts, above the drum, making it more accessible to the driller. The shaft is 5 11/16 inches in diameter, and is regularly equipped with double cathead and rathole sprocket. Sprockets are of heat treated, chrome nickel, cast electric steel.

AIR COMPRESSOR
Chicago Pneumatic Tool Company

Chicago Pneumatic Tool Company, New York City, has announced a complete new line of air compressors which the manufacturer claims embody many refinements and improvements. The new compressors feature improved intercooling, force feed lubrication, durable valves, simplicity and quiet operation. Low maintenance cost is claimed because of the fewer cylinders to maintain and ease of inspection and adjustment.

The three types of drive include the built-in motor, coupled, and V-belt. The built-in motor type has the motor stator mounted on compressor crankcase and the rotor keyed to compressor crankshaft. A pilot bearing in the outer motor bracket insures alignment.



Chicago Pneumatic Compressor

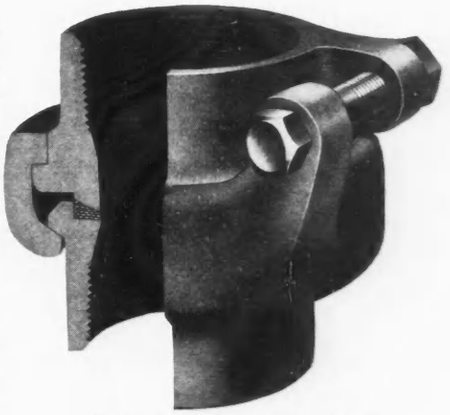
The unit may be bolted directly to the floor. It is available only with the 50- or 60-cycle squirrel cage motors. With the coupled motor drive the motor is connected through flexible coupling to compressor and the entire unit mounted on structural steel sub-base. This type is for use with all types of motors. The V-belt drive type is available with or without sub-base, and for use with any kind of prime mover.

ONE-BOLT COUPLING
Thornhill-Craver Company

A new type of one-bolt coupling is being manufactured and marketed by Thornhill-Craver Company, 3016 Polk Avenue, Houston, Texas, giving the industry improved features over this company's original "Unibolt" and making this type of handy coupling available for a wider variety of uses.

The new coupling is malleable iron, with a resilient seal ring that resists oil and acid, takes dirt and grit without effecting the tightness of the seal, and is non-vlucanizing. The design takes misallignment of pipe because the seating radii are swung from a common center and must form a perfect seat in any position. The manufacturers state that this feature provides a fast, leak-proof joint safely under varying pressures or temperatures.

The single bolt serves only to draw the self-locking tapered shelves together and, after coupling has been tightened, serves merely as a safety factor, and may be entirely removed



Thornhill-Craver Coupling

without effecting the function of the coupling. This single bolt applies a tremendous pressure on seats and seal

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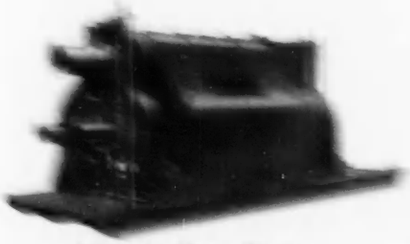

American Drive Weld

DRILL COMPRESSOR
Chicago Pneumatic Tool Company

Chicago Pneumatic Compressor

COUPLING
Thermoid Cover Company

Thermoid Cover Coupling

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ring, the pressure applied to the bolt being multiplied 6½ times through the tapered shelves. An equal pressure is exerted at all points of the seat circle.

The short distance between the tapered shelves and the shoulder in the nut, which are the supporting points, causes reduction in expansion and contraction to a minimum. When heat or cold produces these effects they are controlled within the coupling, due to the design of the unt. The joint of the coupling is entirely enclosed within the nut, or outer member.

Like the high pressure Unibolt, the new malleable one-bolt coupling eliminates wide, heavy flanges, multiple of bolts and nuts, and permits installation in close, inaccessible locations because of its comparatively reduced bulkiness.

SUCKER ROD HANGER

The Engineering Company

The Engineering Company, Tulsa, has announced the Teco Sucker Rod Hanger, an improved type of rod hanging apparatus, available in both portable and stationary types. The portable type is illustrated.

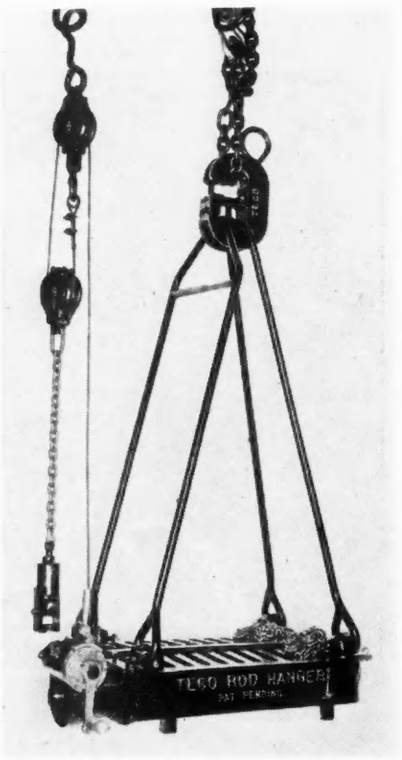
The Teco Safety Rack is of electric cast steel contruction having a safety center guide tooth (patent pending) between the two rows of supporting teeth, which automatically locks the rack and acts as a guide when moving the rods in and out of the rack.

The Teco Safety Winch has an automatic over-load release brake (patent pending) which allows faster and safer handling of the stands of rods. When pulling rods, the brake allows the transfer elevator to automatically adjust itself to the correct height for each stand of rods. When the brake is released the stand of rods may be lowered into the rack by its own weight without uncranking. A clutch arrangement prevents spinning of the winch crank when the crank is released. The brake may be set to hold only one stand of rods, allowing the winch to unwind if the weight of the entire string of rods is accidentally applied to the transfer elevator due to failure to remove the elevator, preventing overturning of the rack.

The Teco Safety Transfer Elevator has an automatic locking device which closes when the elevator picks up a stand of rods and releases when the rod is set down, and a safety bail hook to prevent accidental dropping of a portable hanger when hoisting into the derrick.

The Teco Winch has a rapid attachment device to allow quick and easy attachment and detachment from the rack, and may be applied to any rod hanger rack.

The rod hanger is distributed through the Jarecki Manufacturing Company.



Teco Sucker Rod Hanger

WELDING ROD

The Linde Air Products Company

The Linde Air Products Company, New York City, has announced a new stainless steel welding rod for welding chrome-nickel steels of the 18-8 type. Known as Oxweld No. 28 Columbium-Treated 18-8 Welding Rod (patent applied for), this is an important addition to the Oxweld line of welding rods. It simplifies the fabrication of products from 18-8 stainless steel and greatly improves the corrosion-resistance of the fabricated joint areas, the manufacturer claims.

The outstanding and unique feature of the new rod is the inclusion of a definite quantity of the element columbium. Because of this feature, products fabricated from "treated" or "stabilized" 18-8 steel by welding with Oxweld No. 28 rod have full corrosion resistance and heat resistance in the as-welded condition. No heat-treatment after welding is necessary.

PACKER AND HOLD-DOWN

Bradford Motor Works, Inc.

Bradford Motor Works, Inc., Bradford, Pennsylvania, has announced a perfected combination packer and hold-down for seating the Admore and other insert pumps at any desired point within the tubing, thus making it possible to pump from any desired level without the necessity of pulling or moving the tubing. No common working barrel or seating device is needed.

The pump anchor replaces the conventional hold-down arrangement on the Admore pump. It is sturdily constructed and very simple, consisting of a tube on which is mounted a specially designed slip assembly and expander sleeve, and onto which is screwed the bottom collar and tapered head with rubber packer. The slip assembly arrangement is such that the possibility of accidental setting, while running into the hole, is eliminated yet it is possible to set easily when the desired level is reached. When the slips are set the downward travel of the expander sleeve is stopped, and the weight of the rods, when set down on the anchor, drives the tapered head into the rubber packer. The head seizes in the packing so that a considerable pull is required to unseat the anchor.

This Week with the Industry's EQUIPMENT SUPPLIERS

JACK WINTERS

Colox Mud Adds to Its Engineering Department

Jack Winters, formerly with Houston Oil Company of Texas at Refugio, Texas, has joined the Colox Engineering Department at Houston. Winters is a graduate petroleum engineer from Texas A. & M. College.

Walter Ruska Organizes Geophysical Machine Concern

Walter Ruska, formerly an engineer in the Askania plant at Berlin, Germany, and during the past five years in charge of geophysical research shop of Humble Oil & Refining Company, Houston, has organized Walter Ruska & Company, Inc. The company has been established at 6512 West[illegible]ster Street, Houston, and is prepared to design and repair scientific and precision instruments and apparatus. The company also is the North, Central and South American representative for the Suss line of torsion balance machines.

National Supply Makes Gulf Coast Transfers

The National Supply Company has made a number of changes in its Gulf Coast division personnel recently. J. M. Powell, formerly store manager at Scott, Louisiana, has been transferred to Houston, from which point he will operate as field salesman. W. B. Ferguson, who has been assistant to Mr. Powell at Scott, has been made store manager at that point.

Frank R. King, formerly office manager at Houston, now is city salesman, and P. S. Pirkle has become office manager. J. H. Phillips, Jr., has been appointed cashier for the Houston branch.

Charles H. Cartwright and Marshall Cone have been transferred from the Fort Worth office to the Houston office.

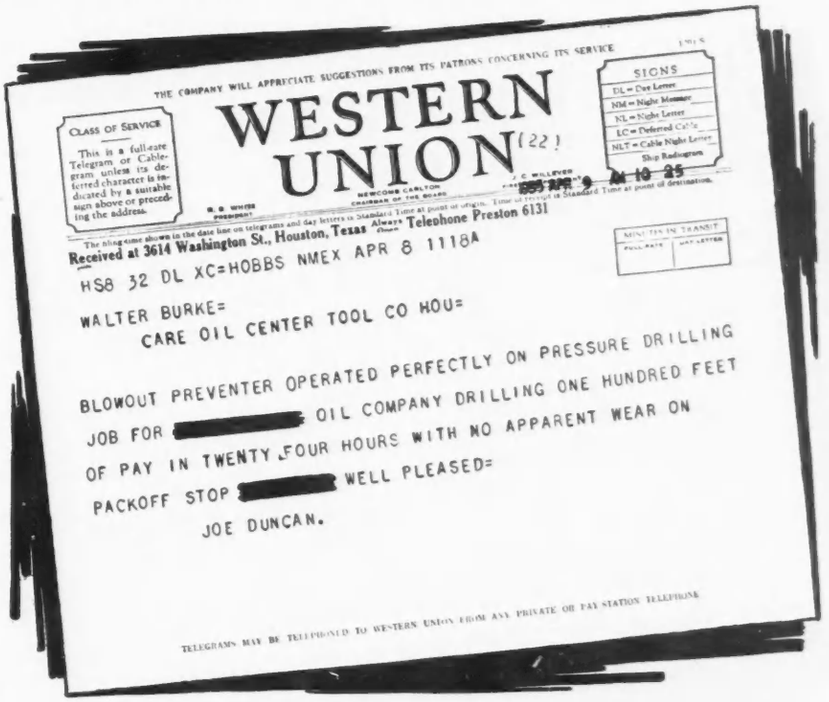
The National Supply Company has under construction a large assembly and warehouse plant on Navigation Boulevard in Houston.

Mid-Continent Supply Company Opens Two New Texas Stores

Mid-Continent Supply Company, General offices Fort Worth, Texas, recently opened two new stores, one at Kermit, Texas, with R. L. McAnally, store manager, under the supervision of R. C. Tucker, district manager, at Odessa, Texas; and one at Refugio, Texas, with G. A. Wead, store manager, under the supervision of D. H. Thornbury, vice president, at Houston, Texas.

Flexible Couplings

The John Waldron Corporation, New Brunswick, New Jersey, has published an attractive catalog describing and illustrating the important changes that recently took place in the manufacture of the Francke flexible coupling.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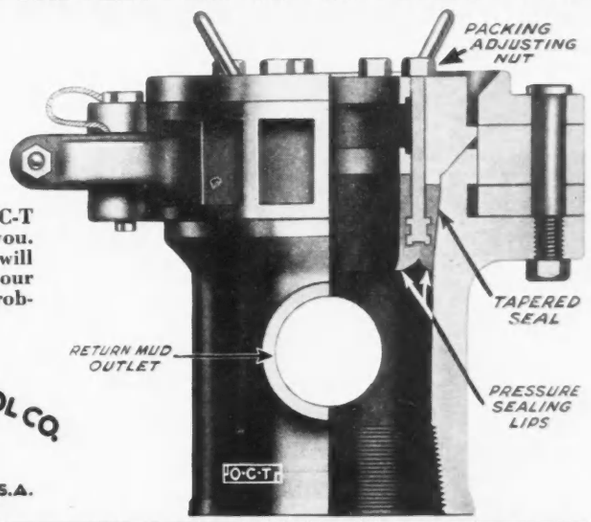

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Squeaks from the Bull Wheel

We Know

So your son is in college. What is he preparing for?

Don't know; but from the way he works me I kind of think he's going to be a diplomat.

How About it, Girls

A cop pulled up beside a car parked on a country road in the wee small hours of the morning.

"Hey," he yelled, "what business have you got to be out here at this time of night?"

"This isn't business," came a voice from within, "it's a pleasure!"

Bad Habit

"How did the accident happen?"

"Why I dimmed my lights and was hugging the curve."

"Yeah, that's how most accidents happen."

A Spasm

Teacher—"You are very slow with figures, Tommy. Come, now, speak up quickly. If your father gave mother a fifty dollar bill and a twenty dollar bill what would she have?"

Tommy—"A fit, ma'am!"

Descended

A little girl went into a large office building and had her first ride in an elevator.

"How did you like it?" asked her father?"

"Why, it was so funny," answered the child. "We went into a little house, and the upstairs came down."

Pa's Grand Smoke

A young bride-groom, after the wedding was over and the bride's father had gone off to the club, began to search anxiously among the wedding gifts.

"What are you looking for, dear?" said the bride.

"That $1000 check of your father's," he said. "I don't see it anywhere."

"Poor papa is so absent-minded," said the bride. "He lit his cigar with it."

Long, Long Trail

"What do you say to a honeymoon in Australia, dear?"

"But dearest, I'm afraid of seasickness."

"Yes, but you ought to know that 'love' is the best remedy for that."

"Perhaps, but think of the return trip."

Sour Notes

The young married couple were having a disagreement while awaiting lunch at a modest restaurant. The woman was grumbling because they were unable to afford the luxurious restaurants which had been a feature of their honeymoon.

"You can't have a brass band everywhere you go," said the man crossly.

"Oh, yes, I can," snapt his wife. "I've got it with me now—on my finger."

Inexperienced

Question: Dear Mr. Greene: I think it's just terrible sending all those nice marines to China. What will they do when they get there?—Inez Barnes.

Answer: Good heavens, Inez, ain't you never been out with a marine?

Anybody Feel Flattered

"Daddy! A boy at school told me that I looked just like you!"

"That so?—and what did you say?"

"Nothin'. He was bigger'n me."

Fate's Favoritism

Lady—"Why are you crying?"

Boy—"My aunt has fallen down the stairs."

Lady—"But she will soon get better."

Boy—"I know, but my little sister saw her fall and I didn't."

All Explained

"Why did you tell Joe you married me because I'm a wonderful cook? I can't boil a potato!"

"But I had to give some excuse."

Swift

"I understand Bill's married a pretty fast girl."

"What makes you think so?"

"He told me he could hardly keep her in clothes."

Habit

The young wife was heart-broken.

"What's the matter?" asked a friend.

"Oh, my husband is so absent-minded. After breakfast he left a tip on the table, and when I handed him his hat and coat he gave me another dime."

"Well, that's nothing to worry about. Just force of habit."

"That's what worries me. He kissed me, too, when I gave him his coat and hat."

That's About All

"My wife prepared my breakfast for the first time today."

"Really? What did you have?"

"Indigestion."

A Rear-End Collision

Sophie Soper was injured recently while crossing Main Street.

In questioning her after the accident, her lawyer asked:

"Just where did the automobile hit you?"

"Well," said Sophie, "if I'd been wearing a license plate and a tail-light, they would both have been broken."

No Foolin'

The wife and daughter of Colonel Berry, camp commander, came to the gate after taps and demanded admission. The sentry objected.

"But, my dear man, you don't understand," expostulated the elder woman. "We are the Berrys."

"I don't care if you're the cat's whiskers," retorted the sentry. "You can't get in at this hour."

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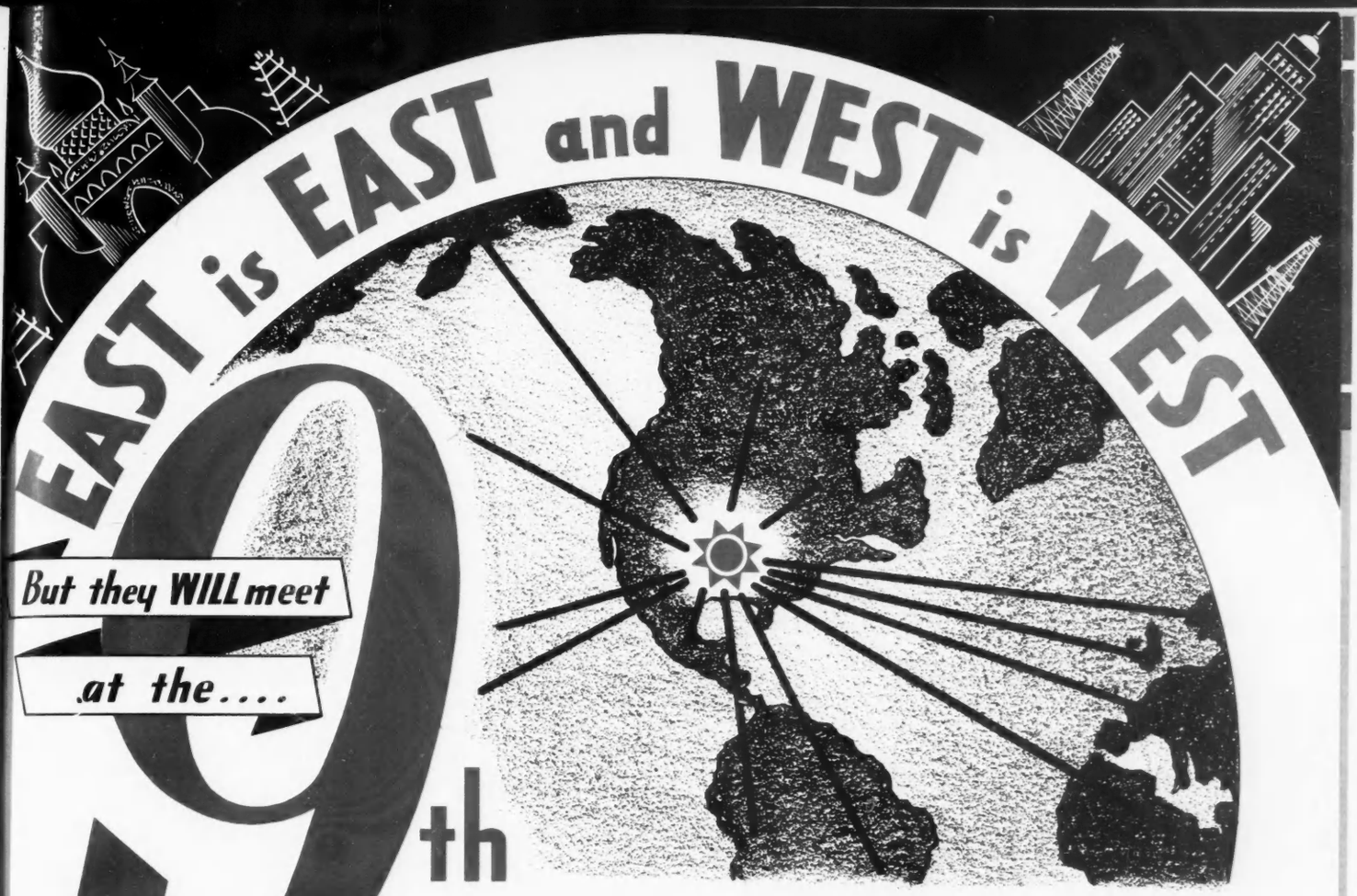

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